

SWARM Theory: Becoming Murmuration

A virus is only doing its job. It's trying to live its life. The fact that it is destroying you doing so is not its fault. It's about trying to understand interrelationships between organisms, even those we perceive as disease. David Cronenberg, 1992¹

We have to un-learn, de-link from normative ways of thinking, specialised ways of thinking, in order to be open to something that can happen that is unknown. Paul B. Preciado, 2017²

SWARM is in the same instant an imagined entity, a collective behaviour pattern (murmuration), a political position, a wishing machine, a site of cultural production, a circuit-breaker, and a cybernetic theory of networked feedback. It seeks to wrest and reterritorialise digital, material and affective terrain from the auspices of semio-capitalism. As an abstract systems theory, SWARM cuts through linear assemblages of axiomatic control and machine-based determinism as problematised by second-order cybernetics. This process materialises the swarm's appetite for cannibalising contemporary governance paradigms, collapsing downward spirals into new cycles of élan vital.

As a behavioural pattern. SWARM is exhibited by aggregated entities in a given space. The same relationality can be experienced in different conditions - atomic structures, animal migration patterns, human crowds - an affective positionality towards other nodes in a network. SWARM enacts a reflexive, recursive, organisational modality. It condenses sonic, visual and affective frequencies across a flat vacuum, folding across infinite variants of repetition.

Operating through retro-causal efficiencies and time-stretched samples, SWARM accelerates the hardcore continuum as articulated by Simon Reynolds - the 'ceaseless forward drive' of UK underground music as genres such as hardcore rave, jungle, jump up, darkwave and speed garage mutate through their structural coupling with the heterodox social, material and cultural conditions of late capitalist Britain.³ Often first perceived as a 'social virus' until successfully denuded through interaction with the market, underground audio virologies become illustrative of wider techno-social pathologies penetrating the body and mind in the age of global computing. As organic, hyperlocal yet networked lines of flight which seek to exceed the limits of the 'real', underground sonic movements operate through pathways of positive audio virology and collective hyperstition (worldbuilding). SWARM extends the mixology of jungle to networked communication systems.

Rhythm is a biotechnology. You are the newest mutants incubated in womb-speakers ... the labs where 21st C nervous systems assemble themselves. Kodwo Eshun, 1998⁴

¹ David Cronenberg, *Cronenberg on Cronenberg* (Faber and Faber, 1992)

² Paul B. Preciado and Georgia Sagri, 'Conversations: Exposed to the Unknown' (Mousse, 2017)

³ Simon Reynolds, 'Simon Reynolds on the Hardcore Continuum' (Wire, 2013)

⁴ Kodwo Eshun, *More Brilliant Than the Sun: Adventures in Sonic Fiction* (Quartet Books, 1998)

SWARM is not concerned with notions of individual authorship. It is rather a position, a modality through which collective virtual experience can be reterritorialised on the plane of immanence, realising theoretical concepts through action and affect. This theory of change is inherently rhizomatic, and SWARM itself can be imagined as such a network - an assemblage of molecular and molar intensities operating at the intersection of technology, society and audio virology. It is both a formless, invisible entity that cuts through all pre-established structures of control, as well as a fully realised, temporary, autonomous formation that typifies the real, collective patterning of desiring machines.

In Schopenhauer's philosophy, the Will is a fundamental force or drive that underlies all phenomena.⁵ It is blind, irrational, and ceaseless, driving all existence and actions. The Will is not rational or structured; it is an undifferentiated force that manifests itself in the visible world through individual phenomena. Considering the abstract systematisation of SWARM, an autonomous, alien assemblage, it bears both a metaphoric and categoric relationship to Schopenhauer's thinking. Each element, like a locust in an insect swarm, acts as an individual manifestation of the Will - driven by an intrinsic, unceasing force. The behaviour of SWARM is not centrally controlled but arises from the interactions of its individual components. This lack of central control and the emergent, unpredictable nature of SWARM's movement and structure can be seen as analogous to how Will manifests in the world: not as a result of rational design or intention, but through an imperceptible, striving force of nature, or anima. Just as Schopenhauer posited that the true nature of the Will cannot be fully known or understood, SWARM, in its complexity and fluidity, eludes complete understanding and predictability and displaces the enlightened subject of liberal humanism.

SWARM differs from large, structured, visible systems and institutions. It is a molecular phenomenon, representing a multitude of small, seemingly independent agents or elements that, collectively, form a dynamic, unpredictable '(w)hole.' But this (w)hole is not an axiomatic hierarchy, but rather a fluid, constantly changing network of structural couplings and affective relationships. It manifests not only within our phenomenological reality, but everything independent of anthropomorphic comprehension. SWARM then is also a noumenal entity, existing both beyond our perceptual frameworks, as well as an invasion from that realm. From a Deleuzo-Guattarian framework, SWARM is an assemblage, camouflaged on a molecular level, characterised by dynamic, autonomous and decentralised movements, interactions and departure zones.⁶ A flat system of machinic relations that is constantly evolving. It seeks to communicate with something on the outside as an off-ramp to the death spiral of postmodern platform capital. It eats away at understanding; feasts on our confusion; our misunderstandings are the nutrients that provide SWARM with space to occupy.

This lonely scene - galaxies like dust - is what most of space looks like. This emptiness is normal; the richness of our own neighbourhood is the exception...

⁵ Arthur Schopenhauer, *The World as Will and Representation* (Dover, 2000)

⁶ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (University of Minnesota, 1987)

Reality has always existed in virtual terms. The body without organs becomes perceptible when you zoom out in Google maps until you see the entire virtual re-presentation of the Earth. When the first images of the planet seen from space were taken in the 1960s, it became possible to conceptualise the globe as a total system. In Charles and Ray Eames 1976 film *Powers of Ten*, the viewer is taken on a birds-eye journey beginning at a family picnic on the east coast of the United States.⁷ The camera pans away vertically from the family until the Earth and its neighbouring planets come into view. We eventually zoom out to the furthest reaches of the unobservable universe, before collapsing back into the earth, where 'glowing points are no longer single stars, but entire galaxies.' The narrator asks us to note 'the alteration between great activity and relative inactivity,' as the camera explores the most microscopic depths of the human body, until a swarm of sub atomic particles appear, a convergence of protons, neutrons and electrons vibrating in an intense, almost visibly quantum manner.

Marx was one of the first to rebel against claims of autonomous market stability. His *Capital* anthology is a scathing, everlasting critique against neoclassical economists, who tend to explain away cycles of boom and bust to the machinations of the market attempting to meet 'equilibrium'.⁸ Marx rejected this position, insisting that the economy was a strictly dynamic entity, constantly fluxing and altering as relative surplus value became impacted by technological development. Economies, like the SWARM, are rhizomes. The market capitalisation value of the largest firms on the FTSE 100 can change in an instant by varying, sometimes dramatic proportions. As has been proven by the second law of thermodynamics, and can be inferred from the musings of Boltzmann, chaos is the normative principle upon which all entities function. The underlying nature of the SWARM can be characterised as - and camouflaged by - an existential critique of humanity executed at an anthropological level. *Powers of Ten's* representation of the atomic plane, 'bonded by every molecule out to the farthest galaxy,' is the nearest comprehension of the SWARM's kaleidoscopic reflexivity.

When the social body is wired by techno-linguistic automatisms, it acts as SWARM: a collective organism whose behaviour is automatically directed by connective interfaces.

SWARM exists across a radically ahuman topology. Kant's *Critique of Pure Reason* stresses that time and space are a sensory apparatus used by humans to decode, construct and navigate the world.⁹ We already see the world in virtual terms, and as quantum mechanics reveal the wave elements inherent in matter, science undergoes an existential crisis. As Gruppo Di Nun note, 'chemistry remains, by its very nature, a radically indeterministic science - there is no single, coherent set of laws that can analytically and accurately predict the evolution of a single chemical reaction under its actual experimental conditions.'¹⁰ Every phenomenon is a chemical reaction, most of which are imperceptible to the human eye, with our limited sensory access to wave-frequency bands. SWARM necessitates not just a new way of understanding our reality, but also of understanding matter. Gruppo Di Nun term the latter 'spectral

⁷ Charles and Ray Eames, *Powers of Ten* (PBS, 1976)

⁸ Karl Marx, *Das Capital* (Fingerprint!, 2016)

⁹ Immanuel Kant, *Critique of Pure Reason*, (Penguin, 2007)

¹⁰ Gruppo Di Nun, *Revolutionary Demonology* (Urbanomic, 2022)

materialism', a philosophic modality 'in which indeterminacy leads to the renunciation of traditional atomism, replacing it with a reinterpretation of self-resonance.' SWARM makes itself known through human and machine experimenters, '[creating] matter with their own gaze at the moment it manifests itself.'

SWARM arises from the techno-philosophy of the late 20th century. In his 'Postscript on Societies of Control', written in 1992, Deleuze outlines the shift from the disciplinary societies of the 18th and 19th centuries (outlined by Foucault) towards our contemporary global society of machinic influence.¹¹ Power becomes diffused away from institutional control of schools, factories and prisons, into fully networked control societies, where affective capture and behavioural transmutation becomes fluid and omnipresent. Control societies exert a continuous, unbounded influence upon their subjects, facilitated through technologies of information and instant communication. As a result, individuals transform from a mass component in an industrial production machine to 'dividuals,' data points in a vast sea of networked information, primed to be harvested, regulated and leveraged. The user replaces the worker as data outpaces labour.

What does a scanner see? he asked himself. I mean, really see? Into the head? Down into the heart? Does a passive infrared scanner like they used to use, or a cube-type holo-scanner like they use these days, the latest thing, see into me - into us - clearly or darkly? I hope it does, he thought, see clearly, because I can't any longer these days see into myself. Philip K. Dick, 1977¹²

Humanity is a swarm. Franco Berardi's definition of a swarm is a 'plurality of living beings whose behaviour follows (or seems to follow) rules embedded in their neural systems.'¹³ People are no longer controlled in specific spaces in time, but continuously - virtually - everywhere. This has only been bolstered by the exponential technological acceleration of the past decade. One of the major consequences of the proliferation and increased engagement with virtual reality, is the radical shift of viewpoint and perspective. Here, we broaden the notion of sight to include all sorts of sensors, including those of facial recognition, image capture, infrared detection or radio-frequency identification. There is a host of mechanisms and technologies on which the posthuman gaze is built. More than ever, when we perceive an object, we also see the virtualised layer of augmented reality mapped on top of it. While the so called 'infra'-tactile taps into the growing density of ambient media in physical reality (leviathan bodies of surveillance that corporate institutions summon and assemble) the 'ultra'-sensorial emerges as its spectral supplement.

Insects are technology. John Appleby, 1998¹⁴

Early efforts to characterise SWARM note its counteractive tendency towards state control. John Appleby draws a comparison between locust swarms and Deleuze and Guattari's nomadic war machine. Much like nomads aim to occupy smooth space, locust

¹¹ Gilles Deleuze, 'Postscript on the Societies of Control' (October, 1992)

¹² Philip K. Dick, *A Scanner Darkly* (Doubleday, 1977)

¹³ Franco Berardi, *On Poetry and Finance* (Semiotexte, 2012)

¹⁴ John Appleby, *Facing the Swarm: Encountering a Non-Human War Machine* (Pli, 1998)

swarms navigate the flat terrain of the desert and deterritorialize areas of vegetation as they enter. Appleby argues that the swarm constitutes an insect war machine or an insect-becoming that is resistant to the static modalities of states. He describes in great detail how humans have historically experimented and failed to eradicate locust swarms. Around the time of writing, in 1998, the UN relied on a strategy of surveillance and chemical spraying. High tech scanning technologies proved ineffective - 'the locusts win and the war machine is up and running before humans can get to it.' The locust swarm is a powerful metaphor for the collective potential of SWARM becomings and associated technologies.

Insect-becomings and technology are made possible by and mutually reinforce one another. Piekutowski discusses the "radical otherness of insects" by interrogating the term 'vermin,' which Kafka used to characterise the metamorphosis of Gregor Samsa.¹⁵ 'The term used by Kafka is against the concretisation of Gregor's form and instead refers to the causes and effects of including creation in the culturally variable category of vermin.' In other words, 'vermin' is not a natural entity and has no discernible identity, but is rather a "shifting social construction." Piekutowski contends that technology is deeply inhuman, 'a non-linear branching project covering a much wider field of reference than the human being.' He discusses how the complex behaviours, efficient structures, and unique sensory systems of insects have provided valuable insights and inspiration for various aspects of computer science and technological development, ranging from algorithms and robotics to sensors and AI. SWARM intelligence exists precisely because insects like ants, bees, and termites demonstrate efficient problem-solving strategies through collective behaviour. This has led to the development of algorithms that mimic these behaviours in solving complex problems like optimization, routing and scheduling. As well as being used heavily in military operations, drone swarm technologies in agriculture are able to plant seeds, identify disease outbreaks by surveilling large areas and rapidly deploy fertilisers. For Piekutowski, "the scattering and decentralisation of the transformed posthuman bodies in a swarm is an open project, becoming together with the environment."

Jungle functions as a particle accelerator. Seismic bass frequencies engineering a cellar drone which immerse the body in intensity at the molecular level... Jungle is the abstract diagram of planetary human inbecoming.

SWARM also occupies acoustic and sonic virologies. In his book *Sonic Warfare*, Goodman explores the concept of an audio virology as a way of ascertaining how power and power relations are exercised through sound.¹⁶ An audio virology 'offers a nexus that synthesises the flows of information, matter and energy into a virulent rhythmic consistency.' SWARM is an "affective contagion" for the dizzying flows of information, matter and content that permeate the socius, as well as a resistance mechanism against capitalist affect modulation. From this acoustomological perspective, SWARM can be understood as a dynamic reterritorialisation machine, capturing and remastering pre-existing conditions to reprogram dominant narratives of organisation and collectivity.

¹⁵ Piotr F. Piekutowski, 'Swarm-Hybrid-Technology: The Transmedial Possibilities of Becoming-Insect' (Zoophilologica, 2023)

¹⁶ Steve Goodman, *Sonic Warfare: Sound, Affect, and the Ecology of Fear* (MIT, 2010)

Following Deleuze and Guattari, 'sonic assemblages' can be defined as material/electronic semiotic objects composed of multilayered recordings from a variety of mediated sources.

William S. Burroughs' cut-up method involves physically cutting up written texts into fragments and then rearranging those pieces to create new narratives or meanings. In his 1979 lecture 'Creative Reading' at Naropa University, he encouraged his students to undertake various cut-up practices, including taking a walk with a recording device and using the material to inspire the writing process. This technique, inspired by the Dadaists and their use of collage, disrupts linear narratives and traditional structures of time, creating unexpected juxtapositions and new associative networks. The concept is directly applicable to the resampling of music. Nightcore, a genre of music characterised by speeding up a track to a higher tempo and pitch, also draws on this idea of recontextualization and manipulation. It often creates a sense of accelerated nostalgia by taking familiar songs and presenting them in a new, hyperdriven form. This embedding of the future in historical material is an example of temporal hacking through media manipulation.

Negative swarm assemblages, such as autonomous swarm drones, manifest within military technology as part of the state's apparatus of suppression, surveillance and capture. As such, the concept of the swarm is often associated with a masculine and destructive war machine. However, SWARM argues for more positive assemblages that delink and reformat political and social relations into a harmonious, insect-like structure. These productive and collective SWARMS can be found in collective memetic hyperstitional networks, or the murmurations of birds flocking in the sky. The collective patterning of the murmuration is where the SWARM becomes visible and tangible, where the abstract machinations of the molecular translate into the language of social, political and cultural change. Sonic assemblages operate similarly; this collage of spoken word and music functions to delineate dominant narratives and encourage an unlearning. Ultimately, SWARM is murmuration - a positive assemblage that embraces dynamism of preconscious, transdisciplinary tacit knowing - an alternative theory of property and production.

each apocalypse is an end of the world - a meltdown, but there are many of these - every epoch ends in a different way - so there is an apocalyptic break in global capitalism - like a break on Nietzsche's eternal return - the assumption that the system could absorb all disaster was key for the functioning of techno-nationalism - the revolution resides in new forms of life - forms of subjectivity - all spheres spilling over - blurring lines - activist autonomies have become a non subject acting without agent - affected and affecting - pre-positioned in existence - capturing the space of planetary insurgencies would be to imply that something was active - agency emerging from some bodies - post-media refusing the particularity of this world - yet the situation can only be understood on the basis of non-distinction - in the flatlands of the multitude - the question of agency becomes postsilent - hyperreal insurgencies - automaton quickovers - destabilizing the crisis dynamics of capital - hypermodern heydays - SWARM interventions - online / offline - transductions of drone terrorism - computer viruses, megatechniques - designer morphologies - propaganda clusters - these are characteristics of the baroque inserts of Equivalence's affective futurist forces - adventurist quarterbacks architecture sketches for the anti-Baudrillard world - undermining cyberbodies - militarized future feels - economic collapses - what it feels like to be alive right now is everything is crumbling - in the visible, invisible, possibility, actuality, suspect -

these distributed modes of organization - crypto-anarchism - communication cliques - guerrilla utopias - sediments of a new syncretic assemblages social ecologies, techno-geo-engineering programs, rhizomatic rhymes, news communities, biodynamic farming, epigenetic psychology - myths and models - the always-already pervasive - antecedents, detournement, tactical montages, ignition points, transgressive cinema, sound structures, techno-performers - the accelerating cascade of combinatorial insurgencies -the designs of transits innumerable contingencies - the flesh traders networks, eco-designers, digital craftspeople - spookwars

SWARM: Sonic Assemblage [Eschatology Mix]

1. SWARM Eschatology
2. M-C-M', *Mechanomic*
3. SWARM Hybrid Technology: *The Transmedial Possibilities of Becoming Insect*
4. Kodwo Eshun, *Narrating the Race to Zero*
5. M-C-M', *Brain*
6. Windom Earl, *The Black Lodge*
7. SWARM Hybrid Technology: *The Transmedial Possibilities of Becoming Insect*
8. Nick Land. *In the Mouth of Madness*
9. Alex Proyas, *I, Robot*
10. William Burroughs, *Art Cut Up*
11. SWARM Hybrid Technology: *The Transmedial Possibilities of Becoming Insect*
12. Stewart Brand, *The Net*
13. Guy Debord, *The Society of the Spectacle*
14. Shulamith Firestone (1967)
15. Maggie Roberts, *Everting the Virtual*
16. John Appleby, *Facing the Swarm*
17. *Mission Mind Control* (1979)
18. SWARM Hybrid Technology: *The Transmedial Possibilities of Becoming Insect*
19. Anna Greenspan, *Wave Machines*