

CRITICAL DIGITAL STUDIES: A READER

Edited by Arthur Kroker and Marilouise Kroker

From the spectacular emergence of new media innovations such as blogging, podcasting, flashmobs, mashups, and RSS feeds to video-sharing websites, like MySpace and YouTube, and online role-playing games, contemporary society, culture, and politics are being transformed continuously by new digital communication technology. In *Critical Digital Studies*, internationally renowned theorists Arthur and Marilouise Kroker lead the search for a new method of understanding digitally mediated culture.

Digital studies is a rapidly expanding field that encompasses the research interests of social scientists and humanities scholars, multimedia artists, and activists. With this ground-breaking reader, we are introduced to a new style of thought that has emerged directly from Internet culture itself. *Critical Digital Studies* is inspired by the same spirit that gave rise to the Open Architecture Movement, Shareware, Web 2.0 – a creative mashup, mixing the enduring human demand to understand the world around us with the new means of analysis, communication, and living that define the twenty-first century.

An indispensable resource for instructors and students in digital studies programs, *Critical Digital Studies* is a comprehensive, creative, and fascinating look at a digital culture that is struggling to be born, survive, and flourish.

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9 Biophilosophy for the 21st Century

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Soul-Meat-Pattern

There have only ever been three approaches to thinking about life: *soul*, *meat*, and *pattern*. Within this trinity is everything deemed to be animate, living, and vital. 'Soul' is not just the Scholastic, theological, personal soul, but the Aristotelian principle of life (*psyche*), the principle of its organization. The vegetative soul of plants, the animate and sensate soul of animals, and the rational soul of human beings. The hierarchy of souls is not unlike the Great Chain of Being, a biological theology of divide-and-hierarchize. By contrast, 'meat' is brute matter, unthinking mechanism, the clockwork organism, the *bête machine* described by Descartes – animal or machine, it makes no difference. Mechanism is, in a sense, a thinking about life as meat, and meat as lifeless (the life that is lifeless is meat or machine). Finally, distinct from 'soul' and 'meat' is a third approach, that of 'pattern.' It would seem that the emphasis on pattern is a distinctly postmodern phenomenon, the terrain of cybernetics, information theory, and self-organization. But this is only part of the story. Again, Aristotle the biologist equates form (*eidos*) and 'soul' as the distinguishing mark between the plant, the animal, and the human; it is in their mode of organization, how they self-actualize in time ('if it moves, it's alive'). Yet, Aristotle is linked to contemporary self-organization research in that neither can explain how organization occurs, other than to reiterate that the whole is more than the sum of its parts.

Thus, 'soul,' 'meat,' and 'pattern' form a trinity. The trinity is also a triptych: soul in the centre, meat on the right-hand side, and on the left, pattern. An image of thought that continuously switches, swaps, displaces, and replaces the place-holder that defines life: from *psyche* to mechanism and animal electricity to the 'gemmules' and 'pangens' to DNA and the 'code of life.' However, these three approaches do not form a periodization, with Aristotle's *psyche* followed by Descartes' clockwork body followed by the genetic code. Instead, as a trinity-triptych, they form a kind of portrait, a face, a faciality, a field of black holes and white walls, within which and upon which is often written: 'life is that whose essence can be deduced and yet whose essence escapes all deduction' – soul-meat-pattern. Each of these posits a central, universal,

external principle of organization that culminates in the living, the organism, a life-force. We can simply refer to this as the *principle of life*, the central concept that structures a whole field of investigation. Each approach differs in its place-holders, but there continues to be a transcendental locus that minimally guarantees a description of life, something that enables one to point and say 'over there' (or perhaps, 'it's alive ... alive!' or again, 'shoot anything with more than two legs!'). In positing such principles of organization, the soul-meat-pattern triptych also articulates boundaries: living-non-living, organic-inorganic, animate-inanimate, but also animal-machine, human-animal, human-savage, species, races, populations, and genomes. We can refer to this practice as *boundaries of articulation*. Together, the principle of life and the boundaries of articulation are the two methods through which the West has ceaselessly reinvented its thinking about life.

Extrinsic Life

There is an inward-turning and an outward-turning aspect of this thinking. The inward-turning divides, orders, and interrelates species and types; the outward-turning manages boundaries and positions the living against the non-living, making possible an instrumentality, a standing-reserve. The inward-turning aspect is metabolic, in that it processes, filters, and differentiates itself internally; it is the breakdown and production of biomolecules, the organization of the organs, the genesis of species and races. The outward-turning aspect is immunologic, for it manages boundaries, exchanges, and passages; it is the self-non-self distinction, the organism exchanging with its environment, sensing its *milieu*, the individual body living in proximity to other bodies. Nevertheless, there is always something that complicates both aspects. The inward-turning aspect is just fine until the outward-turning aspect loses its grip on things. Epidemics are an example. An epidemic cannot be limited to the individual organism, for its very nature is to pass between organisms, and increasingly, to pass across species borders (and national borders). What is the unit of analysis for an epidemic? Likewise, the outward-turning aspect is able to manage boundaries without problems until the inward-turning aspect is discovered to be an illusion. For instance, if the outward-turning aspect is that which posits the individual organism as distinct from its environment, therefore enabling an instrumental relationship, a standing reserve, what then is the inward-turning aspect? We would assume that it is the whole spectrum of understanding about that organism – its biological, physiological, cognitive processes. But isn't each of these really a nested, outward-turning aspect in itself? What are the systems, networks, and pathways of the organism if not nested layers of the outward-turning aspect? The inward-turning and outward-turning aspects thus complicate each other ceaselessly, and it is therefore not inaccurate to describe their relationship, as Gilles Deleuze does, as one of folding (in-folding, out-folding, an embryology having nothing to do with 'development').

Soul-meat-pattern – again, this is not a *telos*, as if to imply that genetic and information technologies are the most advanced mode of inward- and outward-turning. Yet, in a time of networks, swarms, and multitudes, it would seem that the third approach – that of ‘pattern’ – is today dominant in the life sciences (genetics, genomics), health care (biotechnology industry), technology (a-life, artificial intelligence, networks), war (bioterror, emerging epidemics) and even alternative scientific viewpoints (biocomplexity, emergence).¹ A new, vital pattern pervades systems of all kinds – global economies, social systems, immigration patterns, information exchanges, mobile and wireless communications, and so forth. Despite this, have we rid ourselves of the divide-and-hierarchize mentality of thinking about life? Is ‘pattern’ simply the new ‘soul’? Traditionally, these questions about the principle of life come under the domain of the philosophy of biology. But what would it mean to invert the philosophy of biology? What would it mean to invert this thinking (soul-meat-pattern) and this dualistic method (principles of life, boundaries of articulation), and consider instead a *biophilosophy*? Perhaps it is precisely ‘life itself’ that is the problem, not the aim or the goal. Instead of considering the intrinsic properties of life, what about considering life as extrinsic, as always going outside of itself? Instead of centring life (an essence, an organizing principle), what about considering life at the peripheries – *extrinsic* life, a life always going outside of itself, *peripheral* life?

Biophilosophy vs Philosophy of Biology

What, then, is biophilosophy? To begin with, biophilosophy is not the same as the philosophy of biology. What is usually referred to as the philosophy of biology has both a syntagmatic and a paradigmatic side to it, a horizontal and vertical dimension. The horizontal dimension is the elucidation of universal characteristics of the organism, which are perceived to be part of its essence or principle of organization (growth and decay, reproduction and development, evolutionary adaptation). The vertical dimension is the development of this thinking historically in Western thought, from Aristotle, to natural history, to Darwinian evolution, to the new synthesis in genetics and biochemistry. In general, the philosophy of biology highlights and extends the philosophical dimensions of biological knowledge. Issues pertaining to evolution, biological determinism, dualism, mechanism, and teleology may be considered in the context of the life sciences such as comparative anatomy, physiology, genetics, biochemistry, embryology, germ theory, and developmental systems theory. The philosophy of biology informs the three approaches to thinking about life mentioned above: soul-meat-pattern. The philosophy of biology also undertakes the twofold method of identifying a principle of life and boundaries of articulation. It can be understood as an attempt to pose the question ‘Is the living different from the non-living?’ – an ontological question – in the context of another question, ‘Is the study of the living (biology) different from other fields of study?’ – an epistemological question.

Is biophilosophy simply the opposite of the philosophy of biology? Not quite. Biophilosophy is certainly a critique of the triptych of philosophy of biology. But it is also a way of moving through the soul-meat-pattern approach, while taking with it the radicality of the ontological questions that are posed and that often get reduced to epistemological concerns over classification. Whereas the philosophy of biology is concerned with articulating a concept of ‘life’ that would describe the essence of life, biophilosophy is concerned with articulating those things that ceaselessly transform life. For *biophilosophy*, *life = multiplicity*. Whereas the philosophy of biology proceeds by the derivation of universal characteristics for all life, biophilosophy proceeds by drawing out the network of relations that always take the living outside itself, an extrinsic diagram as opposed to intrinsic characteristics. Whereas the philosophy of biology (especially in the twentieth century) has been increasingly concerned with reducing life to number (from mechanism to genetics), biophilosophy sees a different kind of number, one that runs through life (a combinatoric, proliferating number, the number of graphs, groups, and sets). Whereas the philosophy of biology renews mechanism in order to purge itself of all vitalism (‘vitalism’ is one of the curse words of biology), biophilosophy renews vitalism in order to purge it of all theology (and in this sense number is vitalistic).

‘A Life’ not A-Life

The difficulty with the philosophy of biology – as with nearly all philosophical thinking of ‘the animal’ – is to resist the anthropomorphism of our thinking about life. The approach of the philosophy of biology, the approach of soul-meat-pattern, centres and raises up the concept of the human so that it is not only isomorphic with life, but so that it may rise above life (‘life itself’ as the pinnacle and ‘mere life’ as the base or foundation). This has a number of effects on our thinking about life, for it simultaneously places the human at the top of the Great Chain while also reserving a qualitatively distinct, non-animal place for the human. This is the tired drama of the human, at once partaking of the animal, natural, biological world, and yet incessantly striving above and beyond it, producing abstract knowledge-systems, constructing world and life, aspiring for the spiritual (recall Heidegger’s thesis concerning animality: the stone is worldless, the animal is poor-in-world, and the human is world-building). It is a drama that is by turns tragic and absurdist. Contemporary bio-art practices can be understood as a commentary on this drama, producing dadaist mammals, extra ears, pigs with wings, activist crops, and ‘fuzzy biological sabotage.’²

Biophilosophy implies a critique of all anthropomorphic conceptions of life. But is it possible to think this non-anthropomorphic life? Are we determined yet again to supplant an old term (‘pattern’) with a new one (‘multiplicity’)? The problem is not simply a nominalist one, not simply a game of logic; the problem is the very relation between ‘life’ and ‘thought’ (both Georges Canguilhem and Michel Foucault note

that the most accurate *concept* of life would be life itself). Biophilosophy is an approach to non-human life, non-organic life, anonymous life, indefinite life – what Deleuze calls ‘a life.’ The trick is to undo conventional biological thinking from within. Biophilosophy focuses on those modes of biological life that simultaneously escape their being exclusively biological life: microbes, epidemics, endosymbiosis, parasitism, swarms, packs, flocks, a-life, genetic algorithms, biopathways, smart dust, smartmobs, netwars – there is a whole bestiary that asks us to think the life-multiplicity relation.

Life is X

The central question of the philosophy of biology has to do with an essence of life, a ‘principle of life.’ What is life? Life is X – whatever X happens to be, *eidōs*, mechanism, life-force, selection, code. The concept of ‘life itself’ promoted by geneticists during the post-Second World War era (the genetic ‘coding problem’) was a renewal of a concept articulated by Aristotle in *De anima* as well as his ‘biological’ treatises. The implication of the very concept of ‘life itself’ is that ‘life’ is One. Whatever it is, life is one thing, essentially one thing, for otherwise we could not say, ‘Life is X.’ Even when life reveals its contradictory nature, that contradiction is the ineffable key to life. An example is animal motility. Aristotle posed the question, ‘What makes the animal go?’ – that is, from where does its energy come? The problem was picked up by the application of thermodynamics to animal physiology, with talk of animal ‘electricity’ and ‘irritability’ and ‘vital forces.’ Soon there was an ineffable ‘life force’ coursing through the animal, enabling it to counter the laws of thermodynamics.

Today a similar process is happening with studies in self-organization and emergence. The question has changed, but its form of the problem is the same: ‘How do simple local actions produce complex global patterns?’ The effects of self-organization can be analysed forever (e.g., ‘ant colony optimization’) and they can be applied to computer science (e.g., computer graphics in film, telecommunications routing). But a central mysticism is produced at its core, for if there is no external, controlling factor (environment, genes, blueprints), then how can there be control at all? Again, ‘life itself’ the ineffable, the absent centre. In this sense life follows the laws of thought: it is self-identical (whatever is living continues to be so until it ceases to be living), non-contradictory (something cannot both be living and non-living), and either is or is not (something either is or is not living, there is no grey zone to life). It is in this sense that ‘life’ and ‘thought’ find their common meeting point. Biophilosophy implies a critique of the dialectics of ‘life itself.’ It abandons the concept of ‘life itself’ that is forever caught between the poles of nature and culture, biology and technology, human and machine. Instead, it develops concepts that always cut across and that form networks: the molecular, multiplicity, becoming-animal, life-resistance, and so forth. But the point is not to simply repeat deleuzianisms, but rather to invent or diverge: the autonomy of affect, germinal life, wetwares, prevital transductions, organismic soft

control, abstract sex, molecular invasions, geophilosophy, and what Deleuze calls ‘the mathematico-biological systems of differenc/tiation.’³

Being, Time, Number

The philosophy of biology is an epistemological endeavour, while biophilosophy is an ontological one. The philosophy of biology asks, ‘Which category?’; biophilosophy asks, ‘Affected or affecting?’ Biophilosophy ceaselessly spins out ontologies, none of them final, none of them lasting. An example is the following: perhaps what Heidegger pointed to as the defining philosophical concern of modernity – Being or *dasein* – has permuted into one of the guiding concerns of the new millennium: the problematic of ‘life itself’ or the *zoe/bios* distinction. We are no longer worried about the grand metaphysical concerns of Being, Time, and the One. Biophilosophy is a permutation and transmutation of these concerns – not Being but the problematic of ‘life itself,’ a concern that asks us to rethink the concept of the vital and vitalism. Similarly, the concern with Time has become an interest in variation, transformation, change – difference and repetition (the repetition of the different and the difference of each repetition). The contemporary interest in the event, becoming, and the virtual-actual pair are further variations of this. Finally, the imperative of the One – that Being is One, that Time is One, that the subject is singular, that identity is the identification of the One, even the strange sameness of the Other in ethical thought – all of this asks us to pose the question: what would we have to do to the concept of ‘number’ to think beyond the One-many dichotomy? This is the question posed by Deleuze’s *Difference and Repetition*, but it is already there in Plato’s *Parmenides* – Hair, mud, and dirt. Is there a concept of multiplicity that moves beyond the One-many? Could such a concept resist a simple denunciation of ‘number’ (quantity vs quality, extensity vs intensity, explication vs implication)? If there is a concept of number that runs throughout multiplicity (a proliferative, pervasive number), and if multiplicity is related to life, is there a living number – a *vitalist matheme* – that would move out of the philosophy of biology’s trinity of soul-meat-pattern? Instead of what Alain Badiou calls the split between the quantitative and qualitative, the closed and the open, ‘number and animal,’ is there an *animal number*? Being, Time, and the One thus get recombined as ‘life itself,’ becoming, and number, which in turn ask us to consider or reconsider vitalism, the virtual, and multiplicity.

Other-than-Life

The philosophy of biology poses the question, ‘What is life?’ In doing so, however, it rarely asks the inverse question, ‘What is not-life?’ Certainly, death is not-life. But so is the rock, the chair, the clouds. What about the computer, lunch, or a nation-state, are they not-life as well? What about a doll? Memories? There is a whole negative classification of

not-life implied in the positive question, 'What is life?' Better yet, rather than the question of what is not-life, we can pose the question of the life that becomes not-life, an other-than-life, a *becoming-non-living*. Four, preliminary, examples follow.

1 *Swarm Intelligence*

'Swarm intelligence' is a term currently used to describe an interdisciplinary research field that combines the biological studies of 'social insects' with computer science (especially software algorithms and multi-agent systems).⁴ Just as a group of insects that are individually 'dumb' are able to collectively self-organize and forage for a food source or build a nest, so can simple software programs or robots self-organize in groups and carry out complex tasks. This local actions-global patterns approach is said to display 'intelligent' or purposeful behaviour at the global level. But we can also question and repurpose the term 'swarm intelligence,' for the tendency in this thinking is to always search for a higher-level unity which would be the guarantee of organization and order.

Call it a 'superorganism' or a 'hive mind,' the implication is that purposeful activity can only occur through a process of meta-individualizing all group phenomena, subjecting the many-as-many to a renewed concept of the One. Action must come after individuation, not vice versa. However, the unique thing about insect swarms and other animal groups (packs, flocks, schools) is not just that there is no leader, but that there is something akin to a fully distributed control. Thus, the political paradox of insect societies – how to understand this balance between control and emergence, *sovereignty* and *multiplicity*? And thus the paradoxical question of the field of swarm intelligence – can it be coded? Can one, in fact, engineer distributed control? Or are we stuck at the level of passive observers, limited in our ability to identify swarm intelligence, but helpless to enact it? What would have to be done to the concept of *action* in order to make of swarm intelligence a political concept? If there is a swarm intelligence, the 'intelligence' would surely have to be a frustratingly anonymous, non-anthropomorphic intelligence, the intelligence of 'a life'

2 *Headless Animality*

The philosophy of biology is not only concerned with the unity of life ('Life is X'), but it ties this unity to the individual organism. Whether in natural history's classifications, Darwinian speciation, or the study of genomes, biology always begins from the individual. The individual is the starting point, the basic unit of study. Throughout all these levels, the organism has remained central. Organisms not only form species, but they are also formed by molecules and cells; organisms are the ideal point of mediation between the microscopic and macroscopic views of life. Thus, it is no surprise to find philosophy raising the human above the animal based on the comparison of individual organisms.

For Aristotle, Descartes, Hobbes, Locke, and Rousseau the individual organism is the most basic unit through which the human is raised above the animal, the beast, the savage. This is especially the case when groups are concerned.

Here insects are the privileged case study, perhaps the paradigmatic case of the not-human. Indeed, political thought has often contrasted the human and the insect precisely on this point. Hobbes notes that while both humans and insects are 'social,' only humans can lay down rights to establish a sovereign. Marx notes that insects also produce and build, but humans are able to abstract and plan before building. Thus, even groups are individuals. Groups are composed of individuals that pre-exist them, and groups themselves form meta-individuals ('species,' 'races').

There are also extrinsic group animals, the multiplicity-animals of packs, flocks, swarms. Yes, swarms can be understood to be composed of individual insects. But what if swarms, packs, and so on are actually inversions of the organism? What if they are instances in which the many pre-exist the One? An army ant swarm does have a morphogenetic aspect to it: there is a swarm front, a bivouac, and branching paths. But swarms, packs, flocks, and schools are also defined precisely by their shapelessness and formlessness. They have no 'head' let alone a 'face' They are headless animals, acephalous animality. They are animality without head or tail, polysensory, poly-affective, 'amorphous but coordinated.'⁵

3 *Molecular Molecules*

To begin with, we can suggest that molecules are not 'molecular.' As nonsensical as this sounds, it is important to understand the molecule as one in a whole series of units of composition and analysis: the organism, the organ, the tissue, the cell, the molecule. Each science of life is not just a noun (anatomy, biology) but also a verb ('anatomizing,' 'biologizing') in which the living is both analysed and built up. What is the smallest unit of composition? This is also the first unit of analysis. Building up, breaking down. The process of individuation is central to thinking about life, whether it be about the 'building blocks of life' or the 'code of life'

There are always 'powers of ten' in biology, a huge, ontological microscope that stratifies individuals (the 'DNA makes RNA makes proteins, and proteins make us' mantra of molecular genetics). But what if all this has nothing to do with scale, or with strata, or with layering? There is a whole forgotten history of molecular biology which de-emphasizes the search for 'the' molecules (proteins or nucleic acids), and instead focuses on the relationality of molecules, their network dynamics, their temporal existence on the 'edge of chaos' (biocomplexity). On the one hand, biology tells us that molecules build up and break down (some proteins break down molecules, others build up). But, on the other hand, a cursory look at microbes shows us the radical horizontality of molecules: symbiotic bacteria, contagious viruses, and horizontal gene transfer between microbes.

An epidemic is molecular, but it is also social, technological, economic, political. Networks of infection, yes, but also networks of contagion, transportation, vaccination, quarantine, and surveillance. This compression of networks, this topological intensification, is not the result of molecules, but it is 'molecular.' This microbial life has nothing to do with scale (micro- vs macro-), but it is at once local and global. Even the common biological processes of gene expression, cell metabolism, and membrane signalling routinely create linkages and relations (microbe-animal-human), or rather, they produce *univocity-through-assemblages*.

4 Lifelike Death

We speak excitedly about the ways that new technologies are 'lifelike,' meaning the way that technology – something devoid of life – is able to display characteristics or behaviours that for us approximate life. But it is never clear if the lifelike is a category of representation (the lifelike quality of the 'oval portrait'), performance ('never mind the man behind the curtain'), or simulation ('what is real, Neo?'). Our own obsession is to constantly desire and yet worry about the lifelike: we want our phones to speak to us, but only if they say the right things. In popular culture, science fiction repeatedly plays out these scenarios where we produce a technical life in our own image, a fusion of technology and life in which the human constantly reproduces itself. Perhaps another approach to the lifelike is not to do with life or technology at all, but the lifelikeness of death. There is, in fact, a whole demonology of the lifelike to be considered. In popular culture, genre horror gives us many examples of lifelike death: zombies (the living dead), vampires (the undead), the phantasm (the disembodied spirit), and the demon (the possessed life). This is the lifelikeness of life passing away, going beyond itself, exiting itself. It is no mistake that these figures of lifelike death are often inhabited by fearfully ambivalent agents: viruses infecting the living dead, the 'bad blood' of the vampire, the phantasm enslaving my memory, and the demonic tearing of soul from body. Lifelike death is not the celebratory lifelikeness of our intelligent machines, but the ambivalent attitude towards a life that should not be living, an unholy life. This lifelike death is aporetic life: the dead that walk, the immortal being that is also the basest of animals (bats, rats), the materialized spirit, the familiar face distorted beyond recognition. Perhaps there is a technoscientific side to this after all. For, would not the limit-case of lifelike death be the point at which the organic can no longer be distinguished from the inorganic, the material from the immaterial? This is the domain of nanotechnology, the idea of inorganic life, programmable matter, an undiscovered 'occult media.'

Ancient Life (or, the Biology of Cthulhu)

'Biophilosophy for the twenty-first century' is an ambiguous statement. Biophilosophy does not begin with information networks, biotechnologies, nanotechnologies,

or intelligent software. In a sense, Presocratic thinking is biophilosophical thinking. Heraclitus refers to a non-organic life in this three examples of fire (formlessness in identity), flows (stepping into the river), and the body (stability through growth and decay) – a common *logos* to all change. His opposite – but in many ways his complement – is Parmenides, whose concept of the All-One attempts to comprehend multiplicity as another form of univocity. And then there are the Greek atomists, particles infinitely dense and mobile.

Immediately a dissenting point is raised: Are we not being reductive in our concept of life, as if life were only biological life, and not social, cultural, economic, religious and political life as well? Indeed, is not the problem the way in which biological and biomedical life has come to be the foundation of our emerging 'biopolitical' regimes? This 'bare life' serves as the alpha and the omega of social and political life, at once safeguarding the security of 'the population' while also producing a state of exception, a state of emergency, in which 'bare life' is both under attack and the object of pre-emptive strikes. Undoubtedly. This cordons off, however, our ability to think about life within the chess match between disciplines. To the scientist who says, 'Life is genetic code' the sociologist says, 'Life is the discriminatory implementation of genetics.' To the physicist who says, 'Life is the self-organization of matter and energy,' the political scientist says, 'Life is the struggle between human groups to instrumentalize natural resources.' The humanities professor says, 'Life is the set of metaphors we forget are metaphors,' while the engineer designs 'programmable matter' and 'smart dust.' Once in a while, there are synergistic couplings, noisesome cross-talk that produces monsters: in the 1980s there was talk of chaos, in the 1990s talk of complexity, and crossing the millennium there was talk of networks. Or so the story goes. Perhaps we would like to do away with disciplines; and yet, for all the talk of 'third cultures' we still find the two cultures in the most banal, everyday instances.

This not a manifesto. All the same, concerning biophilosophy there are a number of misconceptions to address. Biophilosophy is not a naive embrace of 'life,' a belief in the altruistic holism of all life on the planet. It is, however, a rigorous questioning of the two-fold method of the philosophy of biology (principle of life, boundaries of articulation), and the divisions that are produced from this. Biophilosophy always asks, 'What relations are precluded in such-and-such a division, in such-and-such a classification?' Biophilosophy is not and should not be simply another name for self-organization, emergence, or complexity. Although there is a fertile exchange between philosophy and biology on this point, it is clear that the sciences of complexity are unable to think both ontologically and politically as well. More often than not, they create a new portrait of nature (a non-linear, meta-stable, complex nature), or worse, they subsume all non-natural elements under this new nature (thus, free markets and/or 'democracy' are self-organizing and therefore inevitable). Not everything comes under the domain of biophilosophy, but at the same time one of biophilosophy's major concerns is the supposed foundationalism of biology and the biological-biomedical definitions of life. Biophilosophy is not simply a

new vitalism, arguing for the ineffability and irreducibility of life's description. Yet, this is perhaps the most frustrating and ambivalent aspect of biophilosophy. Biophilosophy is an attempt to draw out a political ontology, but it is also politically agonistic, even apathetic. There is no *ressentiment* in biophilosophy; only a commitment to a 'vital politics' accompanied by this 'molecular-wide' perspective. Biophilosophy picks up and reinvigorates the ontological questions left behind by the philosophy of biology: Why 'life'?

Notes

- 1 See my article, 'Networks, Swarms, Multitudes' in *CTHEORY* (2004), part one, available at http://www.ctheory.net/text_file.asp?pick=422, and part two: http://www.ctheory.net/text_file.asp?pick=423.
- 2 In particular, see the work of Symbiotica (<http://www.symbiotica.uwa.edu.au>), a group of artists and scientists engaged in exploring cell and tissue culturing techniques as artistic practice. In a different vein, Critical Art Ensemble (<http://www.critical-art.net>) has, for some years, explored the relationships between activism, art, and biotechnology.
- 3 Aside from *A Thousand Plateaus*, see Deleuze's comments on life as 'resistance' in Gilles Deleuze, *Foucault*, trans. Sean Hand (London: Continuum, 1999). For a sampling of other divergences from life, see Keith Ansell Pearson, *Germinal Life* (New York: Routledge, 1999); Alain Badiou, 'Of Life as a Name of Being, or Deleuze's Vitalist Ontology,' *PLI: The Warwick Journal of Philosophy* 10 (2000): 174–91; Mark Bonta and John Protevi, *Deleuze and Geophilosophy: A Guide and Glossary* (Edinburgh: Edinburgh University Press, 2004); Critical Art Ensemble, *The Molecular Invasion* (Brooklyn: Autonomedia, 2002); Manuel Delanda, 'Immanence and Transcendence in the Genesis of Form,' *South Atlantic Quarterly* 96/3 (1997): 499–514; Richard Doyle, *Wetwares: Experiments in Postvital Living* (Minneapolis: University of Minnesota Press, 2004); Miriam Fraser, Sarah Kember, and Celia Lury, 'Inventive Life: Approaches to the New Vitalism,' *Theory, Culture and Society* 22/1 (2005): 1–14; Mark Hansen, 'Becoming as Creative Involution? Contextualizing Deleuze and Guattari's Biophilosophy,' *Postmodern Culture* 11/1 (2000); Adrian Mackenzie, 'Bringing Sequences to Life: How Bioinformatics Corporealizes Sequence Data,' *New Genetics and Society* 22/3 (2003): 315–32; Lucianna Parisi, *Abstract Sex: Philosophy, Bio-technology and the Mutations of Desire* (London: Continuum, 2004); Luciana Parisi and Tiziana Terranova, 'Heat-Death: Emergence and Control in Genetic Engineering and Artificial Life,' *CTHEORY* (2000): http://www.ctheory.net/text_file.asp?pick=127; Eugene Thacker, *Biomedica* (Minneapolis: University of Minnesota Press, 2004).
- 4 For a quick overview, see Eric Bonabeau and Guy Thérault, 'Swarm Smarts,' *Scientific American* (2000): 72–9. For a more thorough, and more technical introduction, see Bonabeau and Thérault, *Swarm Intelligence: From Natural to Artificial Systems* (Oxford: Oxford University Press, 1999).
- 5 This is the phrase often used by John Arquilla and David Ronfeldt in their book on military swarming, *Swarming and the Future of Conflict* (Santa Monica: RAND, 2000).

10 Hypervirus: A Clinical Report

THIERRY BARDINI

And everybody knows that the Plague is coming
Everybody knows that it's moving fast
Everybody knows that the naked man and woman
Are just a shining artifact of the past.

Leonard Cohen, 'Everybody Knows.'¹

The high degree to which AIDS, terrorism, crack cocaine, or computer viruses mobilize the popular imagination should tell us that they are more than anecdotal occurrences in an irrational world. The fact is that they contain within them the logic of our system: these events are merely the spectacular expression of that system. They all hew to the same agenda of virulence and radiation, an agenda whose very power over the imagination is of a viral character.²

Jean Baudrillard, 'Prophylaxy and Virulence.'

At the dawn of capitalism's fourth phase, the hypervirus awoke.
Poisonous parasite, undead, ubiquitous and omnipotent.

At the beginning of the 1980s, the logistic curve of the hypervirus (the 'virus' virus) passed its first critical point (i.e., second order inflexion). Materializing the cybernetic convergence of carbon and silicon, it infected computers and humans alike at unprecedented levels. From this point on, an explosive diffusion in 'postmodern culture' emerged, eventually it plateaued near saturation, redefining culture as a viral ecology. *Room for one more inside, Sir.*

True/false but remarkable identities:
'Virus' is a virus: virus is a reflexive name.
The virus is the quintessential Kantian thing-in-itself.
The hypervirus is the quintessential Dawkinsian meme.