Theory, Culture & Society

Life (Vitalism)

Scott Lash Theory Culture Society 2006 23: 323 DOI: 10.1177/0263276406062697

The online version of this article can be found at: http://tcs.sagepub.com/content/23/2-3/323

Published by:

http://www.sagepublications.com

On behalf of: The TCS Centre, Nottingham Trent University

Additional services and information for Theory, Culture & Society can be found at:

Email Alerts: http://tcs.sagepub.com/cgi/alerts

Subscriptions: http://tcs.sagepub.com/subscriptions

Reprints: http://www.sagepub.com/journalsReprints.nav

Permissions: http://www.sagepub.com/journalsPermissions.nav

Citations: http://tcs.sagepub.com/content/23/2-3/323.refs.html

>> Version of Record - Jun 9, 2006

What is This?

Life (Vitalism)

Scott Lash

Abstract This entry is about the concept of vitalism. The currency of vitalism has reemerged in the context of the changes in the sciences, with the rise of ideas of uncertainty and complexity, and the rise of the global information society. This is because the notion of life has always favoured an idea of becoming over one of being, of movement over stasis, of action over structure, of *flow* and *flux*. The global information order seems to be characterized by 'flow'. There are three important generations of modern vitalists. There is a generation of 1840–45 including Nietzsche and the sociologist Tarde; the generation of 1860 including the philosopher Bergson and the sociologist Simmel; and the generation of 1925–33 including Deleuze, Foucault and Negri. Vitalist or neo-vitalist themes are particularly useful in the analysis of life itself, but thinkers such as Donna Haraway and Katharine Hayles put things in reverse. They understand not the media in terms of life, but life in terms of media. Thus a mediatic principle or algorithmic principle also structures life. If classical vitalism conceives of life as flow and in opposition to the structures that would contain and stop it, then neo-vitalism would seem to have its roots in something like a media or information heuristic. Thus there is talk today that 'information is alive'.

Keywords flow, information, media, vitalism

This entry is about the concept of *vitalism*. Yet we will see at the end of the entry that it applies to *life* more generally, and in particular life in the age of microbiology. L Discussions of 'life' and 'vitalism' disappeared very much from the rise of the Third Reich. This is because many associated it and its foremost proponents - Friedrich Nietzsche and Henri Bergson - with Nazism and the extreme right. The currency of vitalism has reemerged in the context of (a) changes in the sciences, with the rise of ideas of uncertainty and complexity and (b) the rise of the global information society. This is because the notion of life has always favoured an idea of becoming over one of being, of movement over stasis, of action over structure, of *flow* and *flux*. The global information order seems to be characterized by 'flow'. This stands in contrast with the more structured and bounded character of the nation-state and the manufacturing order. Lebensphilosophies - or ideas of life - though, can never be ideas of pure flow. Thus Buddhist doctrines or similar philosophies like Schopenhauer's of endless flow and quiescence are not vitalist. This was noted by Georg Simmel, whose sociological vitalism was characterized more by the tensions of 'flux' than the smoothness of flow. Vitalism also normally has implicit notions of power or struggle. Finally, all notions of vitalism presume some sort of emergent form.

'Life', in this sense, can be understood in its opposition to *mechanism*. One could trace this opposition, and that between 'being' and 'becoming', back to that between Heraclitus' metaphysics of flux and Plato's predominance of form. There are dimensions of vitalism also in Plato, as there are in those seen as the most 'mechanistic' of thinkers such as Descartes or Kant or, say, the late Emile Durkheim. There are especially important elements of vitalism in Aristotle. The primary distinction between mechanism and vitalism may be in terms of

vitalism's *self-organization*. In mechanism, causation is external: the paths or movement or configuration of beings is determined. In vitalism causation is largely *self*-causation. And beings are largely indeterminate. In Aristotle there is a sort of hierarchy of self-organization. Inorganic matter has the lowest level of self-organization, though it also is partly self-organizing. Organic matter in plants has higher levels of self-organization; animals still higher; human beings still higher; and immortals the highest. This sort of hierarchy repeats itself in subsequent vitalists, the most central of whom are perhaps Spinoza and Nietzsche. For Spinoza, and indeed Leibniz, it is God (which is also nature) that has the highest level of self-organization; for Nietzsche the *Übermensch* has such levels of self-organization. Vitalism is *not* humanistic. Vitalists are normally also interested in animals and other organic and inorganic non-humans. Humanism normally contrasts the ideality of the human to the materiality and mechanism of the non-human. Mechanistic and vitalistic heuristics are often 'imperialistic'. The mechanistic heuristic invades the study of human life itself in the varieties of positivism and behaviourism, while in vitalism, the power of self-organization is extended from humans to all sorts of matter.

Vitalism normally presupposes philosophical monism. Doctrines of mechanism are typically dualistic, such as in Decartes or Kant. This dualism lies in a mind-body polarity in which body or matter is conceived as mechanistic. Here, classically, mind is composed of ideal substance and matter of material substance. In this, mind is detached from matter. And such mind comprises a reflective gaze that looks, as it were, two ways. As externally looking or reflecting on matter, it enters into positivistic subject-object relations. In such a relation, mind is 'objective': it has no 'interest', no 'attitude' towards matter. When we relate to matter like this, matter is determinate, and we are - as Kant noted - ourselves caused and determinate. If we shift our gaze, our reasoned thought, from external objects to look internally (or 'intensively'), however, we are transcendental and indeterminate. We are so, Kant argued, as moral beings. In a third instance - as in the non-scientific perusal of nature or in art - we look at nature not objectively, which is also conceiving nature as something instrumental. We instead direct our gaze on nature as a *finality*. In this case, the doors are opened for more vitalist thought. Once nature becomes a finality it can potentially attain powers of self-organization. Although some vitalists like Bergson call themselves dualists, and others like Deleuze speak of a 'transcendental empiricism', Lebensphilosophie tends to be monist. Vitalism is also always happier with empiricists like Locke and especially Hume than it is with rationalists like Descartes. Vitalism always has a very important idea of 'sense' - in which sense is more fundamentally a question of sensation than it is of meaning - and a notion of knowledge that will be based on sense. Thus theories of knowledge that are classificatory – i.e. that tend to subsume a particular under a universal - are rejected by vitalists as dualistic. Knowledge-theories, in contrast, that stress sense, and in which sense is understood largely as sensation, tend to be vitalist. The idea of experience for dualists (mechanists) tends to be classificatory, and subsuming particulars under universals, while experience for vitalists tends to be much more sensory and works through affect (Massumi).

There are three important generations of modern vitalists. There is a generation born about 1840–45 including Nietzsche and the sociologist Gabriel Tarde; the generation born about 1860 including the philosopher Bergson and the sociologist Simmel, and the generation born about 1925–33 including Gilles Deleuze, Foucault and Antonio Negri. Contemporary neovitalism can in many respects be understood as Deleuzian. There seem to be two vitalist genealogies. One connects Tarde to Bergson and Deleuze, and the other runs from Nietzsche through Simmel to Foucault. The Bergsonian tradition focuses on perception and sensation while the Nietzschean tradition focuses on power. Now power is always for vitalists (from Spinoza) a question of *potentia* (puissance) and *potestas* (pouvoir). Puissance is power to and pouvoir is power over. 'Sensory' vitalists like Bergson and Deleuze are theorists of puissance, while the more 'agonistic' tendency in vitalism focuses on pouvoir. In Nietzsche, puissance is life itself. It is energy: a sort of self-generating life-force. But puissance and pouvoir are closely intertwined. Nietzsche's will to power is puissance. Yet the will to power as puissance often ends up in pouvoir. Simmel and Foucault take two different directions from Nietzsche. For Nietzsche as for Foucault, 'slave moralities' (or Foucault's 'discourses' which are the equivalent of Nietzsche's slave moralities) as forms have unhappily become pervasive. Foucualt describes the system of pouvoir through which they work: the clinic, the asylum, sexuality, etc. Foucault is a vitalist only from the point of view of pouvoir. His idea of subjectivity is not vitalistic. But Foucault's idea of pouvoir or knowledge-pouvoir describes a shift from an era when such power is basically mechanistic to one in which power is vitalistic. In what Foucault calls the 'classical' era, knowledge is mechanistic and classificatory: power, for its part, is through surveillance. In both cases knowledge-power is from above and transcendental. It is also 'reproductive' as distinct from productive. Pierre Bourdieu's idea of power - as symbolic violence – is also reproductive: it reproduces the class system. So is Marx's in *Capital*. Foucault in The Order of Things - whose French title is Les mots et les choses, literally words and things - describes a transition of knowledge-power from classification-surveillance to *life*. In 'life', knowledge is less mechanistic and more 'physiological'. Words are no longer classificatory from above but enter into the logic of things themselves. It follows that knowledge is no longer transcendental but immanent. Power, for its part, shifts from surveillance to 'bio-power'. It too is no longer transcendental but now immanent. The biological - and not the mechanistic surveillance - paradigm is always self-organizing. It is thus not reproductive but productive. Many vitalists see puissance as non-linear and productive but power as linear and reproductive. Foucault's vitalism of domination - which is not reproductive but productive - is thus very useful in understanding the information age, in which pouvoir does seem to work in such a non-linear manner.

Georg Simmel too is concerned with the relation between life, on the one hand, and form, on the other. If Nietzsche's slave moralities become for Foucault 'discourses', for Simmel they become 'social forms'. Life for Simmel is what Deleuze and Bergson understood as the 'virtual' and form is the 'actual'. More specifically, life or puissance can actualize into two types of forms: on the one hand, into life-destroying dualistic or mechanistic forms like Christianity, Platonism and Cartesian thought; or, on the other hand, into life-enhancing forms. The latter are self-organizing forms.

A number of vitalists seem to start from the problem of *perception*. 'Perception' is linked here with sensation, affect and experience. At stake again is a radically empiricist (and not classificatory) idea of knowledge. Gabriel Tarde has a strong idea of 'perception'. Indeed sociologist Maurizio Lazzarato understands Tarde's theory in terms of a 'psychological economy' because of the centrality of perception and affect in Tarde. Vitalism presumes a monadological rather than atomistic ontology. In Leibniz's 'monadology' all substances are different from one another. Cartesian 'atomism' presumes that matter comprises identical parts (atoms). For Gabriel Tarde any monad has a 'psychology' and thus relations of affect and perception. Monads also communicate with each other rather than enter into relations of cause and effect. These monads can be subatomic particles, human beings, societies or other entities. Vitalism usually starts from a relation between entities, a relation between monads. Tarde's monads connect to one another through the equivalent of willing and cognition. Here 'affect' is the overarching dimension embracing willing and cognition. Simmel for his part starts from a basic intersubjectivity, before there is a social or forms, connecting it would seem two singular (monadological) subjects. Here we must insist that though vitalism has a great amount in common with complexity theory, the latter lacks the metaphysical dimension that is central and indeed necessary to vitalism.

Bergson is perhaps the most seminal vitalist thinker who features perception. In his *Matter* and *Memory* (1988), Bergson starts from pure perception. He starts from a relation between two material bodies. The bodies relate to each other through perception: each relates to the other as an *image*. The image that a material body has of the other material body varies according to its 'interests'. This is Bergson's 'matter-image ontology'. This image is also a force that acts on the material body. As such it sets it in motion. So far we are in the realm of action and reaction, the realm of mechanism. This is where Bergson introduces the equivalent of life or 'memory'. We have life or memory when there is an *interval*, an *écart* between reaction

and action. This *écart*, which is an inward flexion, is memory. This interval is what gives memory to matter. It is the reflexive moment of self-organization. As such it is life. And consistent with the discussion above, there is no life without self-organization. This is the transition from nature to culture, from brain to mind, from matter to spirit for Bergson. For many vitalists immanence is flatness; for Bergson it is this inward flexion, also known as the virtual. Deleuze takes this on in a major way. Deleuze develops his notion of the virtual most explicitly in what he calls the 'plane of immanence'. This plane has such as inward flexion. It thus comprises an empiricism, but a 'transcendental empiricism'. Deleuze is the leading contemporary vitalist. His and Felix Guattari's Anti-Oedipus (1983) work not from mechanism but instead from what is called 'machinism'. This is influenced by Marcel Duchamp's The Bride Stripped Bare By Her Bachelors, Even (The Large Glass). There is something of the order of a bachelor-machine in Duchamp's vitrine. Deleuze and Guattari similarly speak of 'desiringmachines'. Here they re-cast - through mechanism - the much more organicist and vitalist force of desire. This fusion - under the sign of potentia (puissance) of mechanism and the vitalism becomes Deleuze and Guattari's 'machinism'. 'Desire' here replaces labour as the driving force of contemporary capitalism. The subtitle of Anti-Oedipus is Capitalism and Schizophrenia, in which the schizophrenic plays the vitalist hero in response to the deadening alliance of psychoanalytic law and the capitalist commodity. Deleuze and Guattari could be criticized for not going far enough. It is not just the resistance to capitalism which is schizophrenic: capitalism and capitalist power themselves have become schizophrenic. Indeed normalized, or normalizing, capitalism has transformed into schizophrenic-capitalism. This new phase of capitalism is no longer based on the principle of the (mechanistic) commodity. Capitalism itself has become one big desiring-machine. Such notions resurface in 21st-century neo-Marxism, in the work of Antonio Negri for whom contemporary capitalism, unlike earlier versions, works from a principle of life.

In vitalism life is not at all counterposed to death. Instead death is part of life. Our future is always inorganic matter. Death is seen as entropic, and part of a recombinant life process. Hence vitalism will never spend overly long on the issue of human finitude as will phenomenology. Post-Christian and post-Enlightenment humanism will focus on human death in a way that vitalism will not. In an important sense the Heideggerian drama of 'being against death' is very much the humanist other side of the contemporary mechanism's denial of death. We see this denial of death in, for example, the fetishism of physical fitness, plastic surgery and other technologies of putting off ageing. So vitalism defines itself mainly against mechanism but also against humanism, which itself is the other side of always dualist mechanism. But it does not define itself against death. Vitalism will sit well with the idea of death, the virus, etc. in David Cronenberg's films such as Crash, Scanners, Videodrome and The Fly. Indeed Freud, whose orderly and civilizational ego prevents him from being a vitalist, is at his most vitalist with the death drive, which he understands in terms of entropy and a drive towards the state of inorganic matter. It is in the death drive that we see what would be the psychoanalytic concept of 'the real' as distinct from the symbolic. Vitalism always defines itself against the symbolic and with the real. Indeed the Anti-Oedipus was a question of the destruction of the psychoanalytic symbolic by the machinic real.

There are some important convergences of vitalism and phenomenology. Both stand of course in opposition to mechanism and positivism. Thus we should understand the notion of *life-world* (*Lebenswelt*) that is found in phenomenology. *Lebenswelt*, or 'life-world phenomenology', came to be contrasted with transcendental phenomenology, beginning with Husserl's Crisis of European Sciences (1970). No longer would the knowledge of the thing-in-itself (i.e. the thing's ontological structures) take place through the transcendental reduction, but instead in the grounded 'life-world' itself. Husserl's transcendental phenomenology has already broken with the disembedded neutrality of the subject in Descartes, Kant, classical science and positivism. Thus for classical subject-object thinking the neutral subject had no 'attitude' to the object of its knowledge. For Husserl, the knowing subject instead has intentionality, an attitude, an 'aboutness' towards its objects. So in a first step Husserl puts the subject of knowledge in

such a *natural attitude* towards the objects of its world. In a second step, the transcendental reduction, this subject or 'ego' then brackets this relation and moves from the 'natural attitude' into the *reflective attitude*. It is here that the ego has knowledge of the object. But now this is no longer the *epistemological* knowledge of appearances, but the *ontological* knowledge of the thing-in-itself. Husserl's later work in Crisis now gave such ontological knowledge, no longer transcendentally but in the life-world. It was such a life-world that was at stake in Heidegger's Being and Time, in which the being of beings would be revealed by human being or Dasein through Dasein's very being in the world. Thus also can be understood Alfred Schutz's Phenomenology of the Social World (1967). Though Schutz speaks of life-world, it loses its nature as deep ontology that it had in Husserl and Heidegger and Hans Georg Gadamer. Schutz's phenomenology is fully sociological in that the life-world is rendered as the social world. Subsequently Jürgen Habermas spoke of the opposition of 'system' and life-world. The system here includes the state and capitalist economy. The grounded and integral life-world stands in resistance to the capitalist system. Later Habermas would understand this system in terms of 'strategic rationality' and the life-world in terms of 'communicative rationality'. Communicative rationality featured speech-acts that were 'discursively redeemed' through legitimating arguments. This too lost the ontological dimension of the life-world. Further, the foregrounding of speech-acts and argument was reminiscent of much of analytic philosophy's positivism that critical theory was designed to displace. Sociological phenomenology and ethnomethodology drew not only on 'world' and 'life-world' in Husserl, Heidegger and Schutz but also on the late Wittgenstein's forms of life. 'Forms of life' is here more an empirical 'way-of-doing', and has to do with how a society accomplishes things. If positivist knowledge is knowledge of the 'what', then knowledge of forms of life is knowledge of the 'how'. Here again the deep-ontological dimension is absent. But this knowledge of the 'how' in Schutz, Wittgenstein and Harold Garfinkel is not knowledge of the epistemological 'what'. Knowledge of the 'how' is already arguably ontological. At stake, however, is not a 'deep' but a 'social ontology'. Heidegger's 'existence' opens up a deep and more somehow universal ontology, while the social existence of the life-world or forms of life opens up a social ontology. Social ontology is the point of view on the world, or better, point of operationality, of a given society, language group or community. It can be the basis of identity for a national or ethnic group. Walter Benjamin contrasted language in its positivist, or what he called 'semiotic', mode with this sort of more metaphysical or ontological language. The structures of forms of life or a social life-world are thus ontological. Thus we can see the contrast of Husserl's 'reflective attitude' with Garfinkel's more sociological idea of 'reflexivity'. Husserl's reflective attitude has to do with still theoretical knowledge that still yields knowledge of more universal ontological structures. Garfinkel's has to do with practical action or talk that is reflexive in that it, at the same time, 'glosses' (or points a reflexive vector at) the forms of life (or social ontology) of members of a social group.

Vitalism has consistently distinguished itself from mechanism and positivism. Thus in the early 20th century there was a sort of mutual antagonism between Bergsonian vitalism and the positivism of Durkheim, as in the early 21st century there is a sort of antagonism between the neo-positivism of scholars influenced by Pierre Bourdieu and the neo-vitalism of those influenced by Gilles Deleuze and Antonio Negri. But phenomenology is also a target for today's vitalism. Deleuze wrote famously in Cinema 2 (1989) that for phenomenology consciousness is of a thing, while for vitalism consciousness is a thing. In classical positivism or classificatory mechanism consciousness is not of a thing. It is detached from the thing, knows it objectively and in an abstract instrumental, utilitarian way. In phenomenology there is a move to things themselves, from epistemology to ontology. Consciousness is of a thing in the sense of concretely perceiving an aspect of a thing, of the thing-itself. Yet consciousness is still of a different substance or nature than the thing. Things do not know one another's ontological structure: only consciousness does. In immanentist vitalism there is less concern with the depth of ontological structure. Hence vitalism does not subscribe to the phenomenological or neophenomenological (from Heidegger to Derrida to Levinas) assumptions of 'ontological difference'. Vitalist monadology is an 'ontology of difference'.

328 Theory, Culture & Society 23(2–3)

A serious critique of vitalism has developed, not so much from the point of view of positivism, but instead from the point of view of such 'ontological difference'. This critique is voiced by Giorgio Agamben and also by thinkers such as Gillian Rose. Agamben in The Man Without Content (1999) suggests that vitalist thinking is thinking without content. This is an attack on the seemingly unrestrained hubris of vitalism: its refusal to accept human and nonhuman limitations. In a similar vein, Agamben attacks much of vitalist-influenced modern and contemporary art and art theory as without content. He rejects especially its assumptions that the artist produces everything out of his or her subjectivity. The Faustian artist is thus the 'man without content': the missing content being an ever already existing materiality and sociality. This is not to say that the artist should produce social art, but that he or she is charged with revealing ontological structures of the content of such a sociality and materiality. What vitalism embraces is a metaphysics of *praxis* as distinct from the *poesis* that Agamben advocates. 'Poesis' is always with content: material and social. 'Praxis' is without content. Agamben contrasts to vitalist praxis Heidegger's poesis in which Dasein as human being deals with content or beings, and whose task is to illuminate the being of such beings. He can set against praxis also Walter Benjamin's theory of language in which it is man's task - which is also the task of the translator – to give proper names to beings. Man is the naming being. But man does not just invent these names. The being or essence (Wesen) of these beings is already given, and man's naming is essentially a passive process. There is a very strong activism in vitalist praxis and a sort of passive attitude of the artist in notions of poesis. Agamben says this notion of praxis that is already present in Kant's Critique of Practical Reason is still there in contemporary vitalism. Gillian Rose has made a similar criticism of vitalism whose lack of content or 'middle' is for her nihilistic. Her and Agamben's rejection of vitalism as praxis and without content is similar to Hegel's rejection of Kant's ethics for its lack of social content. There must be social content to any meaningful ethics says Hegel.

Given these problems, vitalist or neo-vitalist themes are particularly useful in the analysis of life itself. Here vitalism influenced thinkers such as Donna Haraway and Katharine Hayles who put things in reverse. They understand not the media in terms of life, but life in terms of media. The study of life becomes a question of 'biomedia'. Thus genetic coding almost seems to be an extension of the coding of media and messages. If media in the age of digital media are increasingly algorithmic or are forms generated by sets of instructions, then so are forms of life, by genetic instructions. Thus a mediatic principle or algorithmic principle also structures life. If classical vitalism conceives of life as flow and in opposition to the structures that would contain and stop it, then neo-vitalism would seem to have its roots in something like a media or information heuristic. Thus there is talk today that 'information is alive'. On this view life itself as much informational as information is living. If vitalism, as Agamben and others quite rightly state, is without content, then this is perhaps not so much a fault of contemporary artists and theorists. It is perhaps because content itself and indeed life itself is swept up in the global flows of finance, information and media.

References

Agamben, G. (1999) The Man Without Content. Stanford, CA: Stanford University Press.

- Bergson, H. (1988) Matter and Memory. New York: Zone Books.
- Deleuze, G. (1989) Cinema 2: The Time-Image. London: Athlone.
- Deleuze, G. and F. Guattari (1983) Anti-Oedipus: Capitalism and Schizophrenia. Minneapolis, MN: University of Minnesota Press.
- Husserl, E. (1970) The Crisis of European Sciences and Transcendental Phenomenology. Evanston, IL.: Northwestern University Press.
- Lazzarato, M. (2002) *Puissances de l'invention: La Psychologie économique de Gabriel Tarde contre l'économie politique*. Paris: Les empecheurs de penser en rond.
- Negri, A. (1991) The Savage Anomaly. Power of Spinoza's Metaphysics and Politics. Minneapolis, MN: University of Minnesota Press.

Rose, G. (1984) Dialectic of Nihilism. Oxford: Blackwell.

Schutz, A. (1967) *Phenomenology of the Social World*. Evanston, IL: Northwestern University Press. Simmel, G. (1991) *Schopenhauer and Nietzsche*. Champagne-Urbana, IL: University of Illinois Press.

Scott Lash is Director of the Centre for Cultural Studies at Goldsmiths College, London University. He is a long-time collaborator at TCS. His co-authored books include *The End of Organized Capitalism* (1987), *Economies of Signs and Space* (1994), *Reflexive Modernization* (1994) and *Global Culture Industry* (2006).

Life – After Canguilhem

Paul Rabinow and Carlo Caduff

Keywords biology, genomics, information, knowledge.

eorges Canguilhem's history of science investigates life as both form (*le vivant*) as well as experience and knowledge of that form (le vécu). Hinting at James D. Watson and Francis Crick's paramount discovery of the double helical structure of the deoxyribonucleic acid molecule, Canguilhem identified in his 1966 essay 'Le concept et la vie' a shift in the understanding of life. Dropping 'the vocabulary and concepts of classical mechanics, physics and chemistry, . . . in favor of the vocabulary of linguistics and communications theory', life had acquired a new language, Canguilhem observed. Operating with terms such as code, information, instruction, message, meaning, and program, molecular biology resembled neither natural history, nor architecture, nor mechanics; it resembled grammar, semantics and syntax. The problem took a different form; life was now framed in terms of organization through information. 'If we are to understand life, its message must be decoded before it can be read', as Canguilhem put it (2000: 317). The structuration of matter and the regulation of functions was set to be explored on a different scale.

In response to the ascendancy of the biosciences, the completion of the Human Genome Project, and a series of gene mapping and DNA sequencing initiatives, commentators have time and again pointed out that a shift has occurred in the epistemology of biology. Human and non-human life, it is argued, is now envisioned at a molecular scale. Recent developments in bioscience and biotechnology have enabled the reengineering of organisms, organs and cells by way

of manipulating their molecular make-up. In contemporary biomedicine, the diagnostic and therapeutic endeavor seems increasingly anchored at the molecular level. Biology has come to 'visualize life phenomena at the submicroscopic region - between 10⁻⁶ and 10⁻⁷ cm', Nikolas Rose recently remarked. For Rose, this momentous shift of scale amounts to nothing short of a molecularization of life. 'This molecularization was not merely a matter of the framing of explanations at the molecular level. Nor was it simply a matter of the use of artefacts fabricated at the molecular level. It was a reorganization of the gaze of the life sciences, their institutions, procedures, instruments, spaces of operation and forms of capitalization', concludes Rose (2001: 13). Tantamount to the capacity of contemporary biotechnology and biomedicine to reshape life at a molecular level is the advent of a new type of biopolitics, or so it seems.

A closer look at contemporary events in postgenomic biology offers a different perspective. Today, we are not witnessing a linear progression towards a general molecularization of life, but rather, and more interestingly, inflections of a rebiologization of life. A series of gene mapping and DNA sequencing projects have revealed the genetic constitution of bacteria, yeast, worms, flies and chimps. The systematic production of genomic data performed on an industrial scale has generated a slew of information. That information, however, has not led to immediate biological understanding. The problem biologists and biomedical scientists face today is how to utilize genomic information to gain biological understanding. It has become clear by now that DNA sequence information does not reveal gene regulation. The specification of when, where, and for how long a gene is turned on or off is still missing. Additionally, it is not always possible to deduce