

SWITCH

Volume 8
Number 1 *Art and Military*

Article 1

1-1-1998

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Switch Staffs

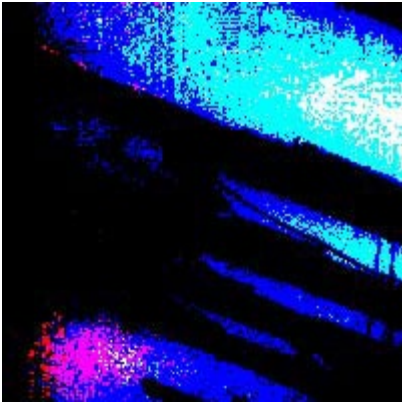
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Switch Staffs (1998) "Interview with Manuel DeLanda," *SWITCH*: Vol. 8 : No. 1 , Article 1.
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Interview with Manuel DeLanda

Switch Staffs on Jan 1 1998

issue 08

The work of philosopher Manuel De Landa is of critical interest to artists working with networks as medium. In his latest work, *One Thousand Years of Nonlinear History*, De Landa examines the relationship of societies to the flow of matter, energy, information and the related bifurcations into higher order paradigms. In his previous book, *War in the Age of Intelligent Machines*, he had explored the life-like qualities of physical phenomena at points of singularity and the physics of military conflict viewed from various organizational levels. This investigation enabled him to speculate the convergence of the biological phylum and machinic phylum in a contingent and ultimately inseparable evolutionary complex. There are interesting perspectives here for anyone interested in net.art, not only because the computer technology used derives from military origin, but because the art of the network is being created from within the same human/machinic complex.

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Q: (B.S): This question relates to your indication that you are not currently making art, instead concentrating on your writing and research. In your writing, you perform a historical analysis of how socially pervasive military organizational behaviors are at the intersection of the machinic phylum. In the course of that activity you indicate something about how these organizational systems are projected (in forms of self-similarity) across the broader cultural spectrum. One example: this morning I became aware that the generic shampoo I shower with every day is distributed by the *National Procurement and Logistics Company*. To an extent, military systems are so completely ubiquitous that they take on a tacit quality. How do you evaluate the "artworld" in this context, and does that analysis relate to the reasons that you are not making art?

De Landa: Well, the main reason I stopped being active in the art world was that I realized that, even when I was an artist (a filmmaker)I was more interested in theoretical questions about the medium than in the films themselves. When I got involved with computers, in 1980, the theoretical dimension (computer programing, computer science, cognitive and analytic philosophy) became even more important. Also, I had been reading people like Michel Foucault ("Discipline and Punishment") and had become aware of the role of military discipline in so many areas of civilian life, that when I stumbled on the military origin of computers I was not surprised, and ready to

follow the trail. It was following that trail that the "War" book got written, but following the trail led me away from art, except as a means to make a living.

Q: (M.H.): What role do you imagine that machine intelligence will play in the arts of the future? Will autonomous software agents one day fulfill the same roles as contemporary artists do, or will the very notion of being an artist be subsumed in the ontological changes brought about by artificial intelligence?

A: I rather envision artists and populations of autonomous software agents interacting with one another in complex ways. As with most complex systems that cannot be controlled in detail, the question is to find ways to maneuver or shepherd the spontaneous behavior of a system, for example, the materials the artist uses, towards some goal. The process of production of form needs to be half planned and half self-organized. The materials (whether hardware or software) must be allowed to have their say in the final form produced.

Q: (G.W.): In your essay, *Markets and Antimarkets in the World Economy*, you address several concepts, such as markets, antimarkets and self-organizing systems, which could be applied to the internet. In particular, how do you think these concepts apply to art on the internet?

A: Well, the internet itself is a mostly self-organized, dynamical system. Artists that operate in the Net must understand its nature as a medium, and create forms which exploit the resources of this medium, as a material. I think this is fairly obvious, and lots of people have understood this already. What is not obvious are the details of implementation, just how to determine the Net's properties and how to deal with it as a raw material for art. The main question now is to understand the consequences of the Net in every area of our lives. I have concentrated on the economic consequences, so I have not much to say about its aesthetic ones, but I am sure some connections can be found.

Q: (G.W.): In a 1992 interview in *Mondo 2000*, you spoke of the processes of stratification (destratification, restratification, bifurcation) in ongoing dynamical systems. How do you think art works within these processes?

A: Those terms refer to the more or less permanent structures (or "strata") that emerge from the self-organization of matter-energy. Strata may be geological, biological or social, but in all cases they represent a way of constraining the spontaneous creativity of matter-energy, of linking it to stable, durable, stratified forms. (rocks, plant or animal bodies, social institutions). In nature there are also, destratifying processes, which detach a particular structure from its fixed function, and open it up to a new one, like the mouth of a bird which is detached from a flow of food, a purely digestive function, to become linked to a flow of song, a more expressive function, used to mark a territory and seduce mates. The artist is that agent (human or not) that takes stratified matter-energy or sedimented cultural materials, and makes them follow a line of flight, or a line of song, or of color.

Q: (B.S.): In your writing, chaos theory is central to your analysis of the historical foundations of military history. If we imagine that a continuum exists between the allegorical use of chaos theory and mathematical models of the social physics of chaos, then at what approximate point on this continuum is your research best described?

A: Well, I try to be as literal as possible, to use as few metaphors as possible, and instead try to use diagrammatic thinking, such as thinking in terms of phase space and the attractors that structure it. So I am trying to do serious social physics. Philosophically, however, the important question is to discern the nature of attractors in general, and not chaos in particular. The key is to think of phase space as a space of possibilities for a dynamical system (whether geological, biological or social) and attractors as special places in this space that trap systems and hence reduce the number of possible behaviors. It is this reduction that we as observers see as the emergence of order. If a system wanders all over phase space, it would look to us as random, but if its behavior is pinned down to a few states, then it will look ordered. Hence, for an attractor in general to produce visible order it needs to be small relative to the space in which it's embedded (e.g. a 3D attractor in a 100 dimensional space). Also, attractors trap systems in a completely deterministic way (they are destinies for the system) yet because they always come in bunches, there are always alternative destinies. These are the issues that matter philosophically, hence the need to never speak of "chaos" and always use the term "low-dimensional deterministic chaos". (Only a small chaotic attractor can produce order, and this is the key to this theory, not any butterfly effect or stuff like that.)

Q: (K.C.): "...several feedback loops have been established between the growth of armies and the development of the economic infrastructure of Western societies." (*War in the Age of Intelligent Machines* p.106) In light of the fact that the economic

infrastructure of Western societies is inextricably bound to a global economy, how might the presence and the influence of these feedback loops be thought of on a global scale? With this in mind, how might the machinic phylum be contextualized and described beyond the bounds of Western culture/society?

A: Well, my new book ("A Thousand Years of Nonlinear History") deals with these questions, except that it sees globalization as a much older phenomenon. The book explores the energetic, biological and linguistic history of the millennium, and finds global connections (in disease pools, for example, or in ecological and linguistic colonialism) that have existed for centuries. What may be going on now is not so much globalization, but the reaching of a threshold in the connectivity of global links, a bifurcation to a new state. On the other hand, as I stress in the book, other bifurcations like this have occurred in the past (like the onset of the Industrial Revolution) and what matters is to stop seeing these transitions as global stages of development for humanity (eras or ages) and see them as marking the emergence of novel structures (steam motors, computer nets) that, as they come to existence, fully coexist with what is already there, and interact with what is already there. In other words, industrial and informational technologies do not mark the start of a new era, but simply add themselves to a complex soup of interactions. (Industrial methods, for example, giving rise to complete new strains of antibiotic resistant germs, or DDT resistant insects.

Q: (G.B.): In your book "War in the Age of Intelligent Machines", you refer to Napoleon's brain as the "central information-processing machine" limited only by the available communication technologies of the time. My question is: Was he a man of great strategy, able to grasp and understand the technological limitations of his time, or was he simply a pawn in the evolution of technology during that point in history, consequently being in the right place at the right time? In other words was Napoleon a strategist/tactician who could be moved to any point in history with similar historical outcomes?

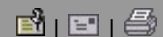
A: This connects back to the question above on maneuvering or guiding self-organizing processes that have a direction of their own. These interventions into reality, to trigger bifurcations or to switch a system from one attractor to another, I see as similar to catalysis, what enzymes do to control or guide self-organizing processes inside your body. Napoleon, in this case, was a necessary catalyst for several processes (which did not depend on him) to come together and interact in the appropriate way to give birth to a completely new war machine.

Q: (A-M.S.): You assume the role of robot historian at the beginning of "War in the Age of Intelligent Machines". Is this type of role play intended to undermine a deterministic view of historical trajectories? How is this addressed in your new book, "A Thousand Years of Non-Linear History"?

A: In the new book, the history of the millennium is told three times, each chapter starting in the year 1000 and ending in the present time. One chapter is told from the point of view of rocks (hence it's all about humanity's mineralization in urban centers running on fossil fuels), another from the point of view of germs and plants (diseases, food, population movements) and another from the perspective of linguistic norms. So I use a similar device to try to achieve a non- anthropocentric (let alone Eurocentric) view of our past.

Manuel De Landa

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