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The second Switch interview with Manuel De Landa, Philosopher and author of **One Thousand Years of Non-Linear History** and **War in the Age of Intellegent Machines**. Interview by Art210.

Art210: As you point out, post-modernity practices embody the ideological role of speculation which (unlike its economic operative predecessor of control and profit imperative) function as a non-linear social linguistic machine. It appears that the self-maintenance of this social-economic engine remains consistent until a shift in internal consistency results, bringing the dynamic system into an alignment with changes occurring in the environment. Do you see this notion of self-organization supporting or running counter to Maturana's autopoietic notions of the ontogenic unity stabilizing its identity in relationship to itself? Is the role of speculation that of attractor or perturbation in this regard?

De Landa: Well, First of all, Varela/Maturana's approach to autocatalytic loops is only one among many, and unfortunately, it is too obsessed with cognitive issues. In my book, I hardly touch on "mental" autocatalytic loops (or for that matter, on ideology, or speculation). The main example I give of these loops is in my reinterpretation of the Industrial Revolution as a giant loop, with agricultural, industrial and financial nodes. But even if we stayed within the cognitive realm, the problem with Varela/Maturana's approach is their attempt to replace informational models of the mind (i.e. those in terms of input and output) with those of self-organization (in which the loop is closed to external inputs, except as sources of perturbations, and all dynamics is internally generated). This is a similar move as that of some embryologists who, realizing the morphogenetic potential of organic materials, pretend that we can then eliminate DNA as a source of information. My position is that we need both information and self-organization, and the book makes this clear. (Chapter two, for example, treats genes and biomass on equal terms.)

A210: In that art could be considered as a factor influencing the equilibrium of a stable state system such as one formed from the ideological role of speculation and shaped by the agencies of language, not economy, do you think art can serve in the role of 'probe head', (the searching device of possible states) and does this in your opinion characterize how art should function?

De Landa: Well, I define "probe-head" behavior strictly as the result of the coupling between a population of replicators (of any kind, not just DNA) and a sorting device (of any kind), so that evolution can stop being thought in terms of "survival of the fittest" and becomes simply an "automatic search process". Now, there are indeed treatments of the history of science in just these terms and these ideas may be applied to the history of art (after all, techniques, styles, ideas etc, may be passed from one generation to the next as replicators, and there are plenty of social factors acting as sorting devices). Yet, unlike linguistic history where I think these ideas work well (particularly before the emergence of language academies, which introduce an element of planning in the process) science and art involve too much deliberate action on the

part of humans to be seen as a pure "blind probing" process, (plus the time scales are not quite right either). Perhaps a modification of this idea (allowing for some conscious decision-making to interact with the blind probing of the searching device, could accomodate these cases).

A210: The analytic aesthetician Joseph Margolis (in his 1976 essay "Robust Relativism"), argues that the ontology of an artwork is that of a "culturally emergent entity." At the time, his concept of a robust relativism involved the idea that claims about such culturally emergent entities were relative because there are no truth-values in cultural emergence, only shades of plausibility which allow competition among what some analytic aestheticians (notably Monroe Beardsly), view as solid objectivities. The "robust" element of his relativism was founded in the physical upon which the cultural emerges. Your explication of abstract machines (following D&G- but with the addition of various indicators of scientific, mathematical and computational rigor that may be applied to model complex systems), argues that there are mathematical abstractions that participate in very similar ways in both physical (geology, genetics) and cultural (semiotic) systems. If this is the case, then it seems that non-linear dynamics could perhaps be applied to aesthetic problems and unite the cultural emergence of art forms with physical emergence in complex systems. Could a non-linear aesthetics be "Robust" as a pure social physics? Or to the point, do the consequences of abstract machines push "plausibility" down into the physical or truth-values up into the culturally emergent? And based on your answer, what are your suspicions regarding analytic aesthetics as a branch of philosophy? What does Deleuze, (in particular), contribute to aesthetics that should be considered (across the barrier), in analytic aesthetics? (Or for that matter, in analytic philosophy?)

De Landa: Well, first of all, "relativism" of any kind is alien to Deleuze's (and my) philosophy, since Deleuze believes in the autonomous existence of reality (autonomous from the human mind, that is). The differences between relativism and Deleuzian realism are perhaps best illustrated by the so-called "linguistic turn" that has shaped so much of Western thought in the twentieth century, from logic (Gotlob Frege) to anthropology (Margaret Mead) and on to semiotics, textual analysis and social constructivism. Although many relativists declare themselves "anti-essentialist", they share with essentialism a view of matter as an inert material, except that they do not view the form of material entities as coming from a Platonic heaven, or from the mind of God, but from the minds of humans (or from cultural conventions expressed linguistically). The world is amorphous, and we cut it out into forms using language. (Hence, the world is relative to a linguistic framework). Nothing could be further from Deleuzian thought than this linguistic relativism which does not really break with essentialism. For Deleuze, the extensive (or spatial) boundaries of individual entities do not exist only in human experience, drawn by the interplay of concepts, but are real, the product of definite, objective processes of individuation. Thus, the extensive boundaries that define living creatures (their skin, but also the folds that define their internal tissues and organs) are the result of complex processes of individuation (or actualization) during embryogenesis.

Whatever consequences this stance may have for aesthetics (and I must say that "aesthetics" per se is not my strongest point) they are indirect, in terms of a philosophy of the "genesis of form" in general (whether geological, biological, institutional and yes, artistic form). Matter ceases to be seen as an inert material, and becomes an active one, morphogenetically pregnant, so that the artisan or artist must take this into account, giving up the idea of imposing a cerebral form on matter from the outside, and instead developing techniques to tease out a form from it, giving the materials a say in the final form produced. A more direct linkage to aesthetics comes from the fact that Deleuze is a realist not only with respect to actual forms (actual mountains, animals, institutions etc), but also with respect to virtual forms (abstract machines, of which topological attractors are the simplest example). It is this "real virtuality" that is the key to his thought and it is relative to this that our technologies of "virtual reality" (novels, films, digital simulations) play a role. As I said, "art" is the weakest aspect of my work (I am a specialist, despite the interdisciplinary aspects of my work, and geopolitical questions, whether economic, military, biological or linguistic, are what attracts my attention the most), hence I have only these few remarks to make on questions of aesthetics.

A210: In terms of your analysis of the city, Toulon was not founded by Louis XIV, it's much older than the 19th century. Toulon is actually based on an Antique Roman city: Telo Martius as it was then known, and was already a naval station acquired by the French crown in 1481. Toulon was developed as a port by Henry IV (r.1589-1610) and enlarged and fortified by Cardinal Richelieu and Sebastien Le Prestre de Vauban in 17th century. The English captured Toulon in 1793, but the French recaptured it a year later. If we consider what you said about French cities: "streets converge to the center of the power." First don't you think that it is from power that everything begins, and not in the opposite way. If we look at Versailles, the king's statue at the entrance is facing the city, and his back is on the castle side.

De Landa: Well, the remark on "streets converging on the center of power" was kind of casual (it did not involve a detailed analysis of Versailles urban layout), so I accept the correction. The point of the remark, however, was that there is a difference between planned cities (not "French" cities) and those that emerge from decentralized decision making. And more generally, the remarks on that section of the book have to do with the different urban dynamics that emerge from landlocked capitals (in any country) and maritime gateways. While the latter typically form hierarchies with other towns (e.g. the hierarchies of towns under Vienna, Madrid, Paris or Mexico city), the latter tend to form networks (e.g. the network formed by Venice, Genoa, Lisbon, Antwerp, Amsterdam, as early as the 15th century). So France (or any other country) has a mixture of both, and the question is what predominated in a particular historical period. Hence my analysis is not a "semiotics of power" of different places within a particular city (Place de greve, as the center of the terror, or Place des Voges, the place where the king and his family used to live, to mention your examples). I have done much less work on these issues than on the more dynamical aspects I just mentioned, which does not mean such a "semiotic power analysis" is not useful.

Now, just a remark on the idea that "it is from power that everything begins". In the spirit of my book, I would never speak of "power" in general, or of "the State" in general, but only of specific "institutional ecologies" comprising a heterogeneous mixture of bureaucracies, markets, antimarkets, prisons, schools, factories, hospitals etc., and of specific exercises of power within and between these organizations. In a sense, the most important contribution of my book may one day be that it gets rid of abstract notions of power (such as "the capitalist system", and of "capitalist power") and replaces it with a more concrete analysis of institutional dynamics (e.g. replacing "the capitalist system" with a mixture of markets and antimarkets, in which only the latter are seen as a source of exploitation and oppression, and both in very concrete, strategic terms.) In a way this is an attempt to cut the enemy "down to size", to avoid talking of the "power of the State" (or of "Global Capitalism") and instead focus on specific bureaucracies and economic institutions with both weaknesses and strengths.

A210: You discuss the idea of a hierarchy of languages and delineate the tension between French and English in the struggle for the top position in that hierarchy. In doing so, you relate the idea of 'world view development' and discuss the relationship between linguistic hierarchies and the rise of nationalism, the influences of colonialism, and power structures in general.

While the language you use to explore these ideas is layered with terms and ideas and - I'd venture to argue - at times the 'logic' specific to the language of computer programming, (arguments, operators, variables, functions, loops, recursion, switching) you don't directly address the language of programming and its presence, or absence, in a hierarchy of languages. Though not a 'natural' language, it seems clear that the language of programming is present in the shaping of a world view as evidenced by your own writing.

De Landa: Yes, I agree. I wrote quite a bit on programming languages in my first book (War in the Age of Intelligent Machines) which is why I do not even mention them in the new one. But the approach in both is similar. Much as I distinguished hierarchical languages (written latin) and meshwork ones (the continuum of romance dialects) in the new book, the old one dealt with centralized languages (Fortran, Pascal) and decentralized ones (any object-oriented one). It is the same distinction, different words. The new book, though, is much more ambitious, and attempts to go beyond Chomsky's theory of language to one where language is seen as only one instantiation of an abstract machine, capable of also generating mathematics and music. It is in order to do this that I invoke Zellig Harris' fantastic theory of language in terms of "operators" and "arguments". So these terms, far from belonging to a special discipline (computer science) are shown to possess a virtuality of their own which makes them universal (though always incarnated in actual forms: actual languages, math theories, musical systems etc).

A210: In "A Thousand Year of Nonlinear History" you describe social systems and cultural evolution, and social stratification in biological terms.

De Landa: No, not really. Actually, chapter one, section two, of that book attempts to de-biologize the concept of species, and to show that the virtual machine that generates species is also behind the process that generates "sedimentary rock" (i.e. both are the product of a "sorting operation" and a "consolidation operation"). A similar isomorphism is then found to exist between social strata and geological strata. When I do talk about biology (chapter two), a similar move prevents any "biologization" of the social: the virtual probe head emerges given a population of replicators of any kind. The fact that genetic replicators happened to be the first ones on this planet is seen as a contingent fact about the actualization of that virtual diagram on Earth, not anything having to do with the "essence" of life. Hence biology does not play a fundamental role in my book. The existence of a virtual dimension alongside the world of the actual, on the other hand, does play a key role (since the virtual, and its divergent actualizations,

is a way to get rid of essences).

A210: Could the biological model you have developed also be applied to art and its systems? It seems that the same elements could be used to describe art and the artworld as you do social structure. For example, stratification (the class structure of the art world and the division of species [e.g., different types of art--performance vs. painting vs. digital]), homogeneity (the elimination of 'weeds'), evolution (of art, how it is perceived, and its place in the world), biomass converters (the artist), the food chain (from artist--institution), and biological entity (It is obvious that art is consumed, but could it be that art is consuming itself?) etc.

De Landa: Yes, but as I just said, there's nothing biological about this. The key distinction is that between strata and self-consistent aggregates, or to use my terms (instead of Deleuze's) between hierarchies and meshworks. In the book I find actualizations of the virtual processes that generate these two types of forms everywhere, from geology to linguistics (and as I said above, in the first book I also give examples from programming languages and military structures, e.g. the sedentary and nomad war machines).

A210: Please could you comment - In your section on linguistics you do not mention the challenge to machines of replicating the tremendously complex hierarchical system that forms our natural language.

De Landa: No, i don't, but I do dedicate a whole section to the problem of "mechanical translation" of language in the War book. (chapter 3, section 2). It also deals with hierarchical versus meshwork approaches to translation, and why the latter are more successful.

A210: Your final "Call for Action" -- to seek a more experimental attitude toward reality -- reminds me of several other theorists who have called for a similar utopian plan (linguist Julia Penelope's plea to change language in the hopes of changing perception; philosopher's Deleuze & Guattari's hope of "becoming" or finding numerous "lines of flight" in the hopes of altering perceptual and theoretical understandings of form and function). Aside from suggesting generally that we live more non-hierarchically, how would you define this approach in more pragmatic terms? Would you consider art that experiments with form (multi-linear), function (interrupting spaces not normally expecting the presentation of art) and audience involvement (multi-author networks) to be a way of enlisting your call for action?

De Landa: The call to be "more experimental" stems not from a utopian desire, and it certainly has absolutely nothing to do with "changing language in the hopes of changing perception". This type of talk belongs to the linguistic relativism that I attack above and which I think is a major block to any progress in this regard. Rather, the "call to action" stems from the realization that we never understood the world properly. We have extremely naive views about the economy, for example. We feel happy to simply speak about the "capitalist system" or "commodification", when the reality of economic history (as uncovered by Fernand Braudel, for example) is much more complex and full of opportunities. There are alternatives to the corporate model, such as a region of contemporary Italy called Emilia-Romagna, dominated by small businesses competing against each other not in terms of costs and reaping economies of scale, but in terms of product design and a concentration of creative people in a region (a model known as "economies of agglomeration"). Now, this region of Italy was put together over the last thirty or so years on the basis of experimentation: it was not planned from above (though local governments did play catalytic roles) and it was not guided by theory. Yet, our obsolete economic ideas prevent us from seeing how innovative this region is, and bias us to see in Emilia-Romagna just another form of "capitalism", or to dismiss it as a short-lived utopia. But a deeper understanding of economics has the opposite effect: it shows that past history is full of "Emilia-Romagnas", that our economic choices were never between "capitalism" and "socialism", but were more open than that.

A similar change has occurred in our conception of matter, which is now viewed as capable of much richer behavior than before, and this needs to change the very form that a materialist philosophy takes. And being more experimental here is simply a way of responding to the extra capabilities we have discovered in matter itself. How this may impinge on the practice of art is related to what I said above in relation to theories of the genesis of form. To develop a new, non-essentialist, relation to materials (including linguistic materials) seems to me more important today than challenging social assumptions about what art is or how it should be displayed. (We have been "challenging conventions", or "deconstructing them" for over thirty years now, it's time to move on.)



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