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Emerging Cyber Subjects

. . . even a lone particle has an associated wave as a flow that defines the coexisting space of its presences. (D+G 1984:280)

Connectionist networks are intricate systems of simple units which dynamically adapt to their environments. (Bechtel & Abrahamsen 1991:21)

"To be strung out" is a phrase most often associated with drug addiction and then again with reference, mainly, to the so-called "hard" drugs like crack or heroin. In order to be "strung out", we must exhibit at least two different properties: we must have totally subsumed ourselves to the pursuit of a drug induced high; and we must be almost continually high, or "fucked" to use another common phrase. This brings to mind Judge Schreber caught rigid in a million divine threads, like prey stuck fast in a spider's web, yet different insofar as these miraculous rays from God are penetrating him literally, for Schreber, fucking him up. We have an image of Judge Schreber strung out on God's web not merely a worldwide web, but an infinite, universal web in receipt of God's spunk like so much celestial smack, delivering him into schizophrenia. And within this web Schreber's body empties, disconnects, fills-up and reconnects according to a bizarre and convoluted schema.

The co-ordinating system used by the schizo is as unlike the familiar Cartesian system as we could imagine. Any schizo decoding is a fluidification of our ordinary systems of organization. The fluid, strung out Schreber can adopt multiple positions within his system of schizo geometry: he can become woman, he can become a politician, he can become parent and child, dead and alive, which is to say, he is situated wherever there is a singularity, in all the series and in all the branches marked by a singular point, because he is himself this distance that transforms him into a woman, and at its terminal point he is

already the mother of a new humanity and can finally die. (D+G 1984:77)

At each singularity, at each point where all the divine rays converge forcing him deep into a schizophrenic gravity-well, Schreber's subjectivity is radically and unalterably reconfigured. The spacetime of the schizo is radically unfamiliar to us. In cosmological theory, matter entering the event horizon of a singularity undergoes "spaghettification" the subjective consequences of this strung-out stuff must be the schizophrenization of D+G: Dn par excellence.

To be strung out is to undergo the constant destruction and reappraisal of individual subjectivity; whether "really", in terms of drug involvement, or "virtually", as this characterization of Schreber could be termed. (We should remember, however, that both of these forms of "becoming-strung-out" operate according to different impulses, or follow different vectors, or perform different functions; for example, we could characterize drug dependency in DeleuzoGuattarian terms as a function of the process: $T_n \rightarrow D_n \rightarrow R_n$; whereas Schreber's schizo becoming-strung-out is more of a Dn.) Furthermore, becoming-strung-out, the fluidification of social coding and the dissolution of traditional co-ordinate geometry all relate to operations on what D+G call the plane of consistency; they must, therefore, also be related to what, in *Capitalism & Schizophrenia 2. A Thousand Plateaus*, D+G call the principle of multiplicity. And once we get into multiplicities, well, anything can happen....

Already we have here a jumble of concepts as convoluted as any schizo's paranoid system. The link I want to make in what follows, thereby mapping this jumble, is between "becoming-strung-out" and contemporary techno/cyber culture, with special emphasis upon our notions of subjectivity. The question of art will follow these mappings.

Emergence

To talk of "emergent properties" or "emergent behaviour" seems to be philosophically de rigeur at the moment. Emergence appears

to refer to two historically different, but currently connected, as we will see, concepts. The first is contained within Chaos Theory and can be summed up in the phrase, "the spontaneous emergence of order out of chaos" (DeLanda 1991:229). In the terms favoured by such a theory, emergence describes the transition from one type of behaviour to another, a phase transition, or even a bifurcation event. To this we can add, again from Manuel DeLanda: "Roughly, we could say that phenomena of self-organization occur whenever a bifurcation takes place: when a new attractor appears on the phase portrait of a system, or when the system's attractors mutate in kind" (Crary 1992:138). A kind of change which happens without any outside input.

The second predates contemporary Chaos Theory, finding many of its theoretical elucidations in the 1920s; Kevin Kelly explains in his 1994 book, *Out of Control. The New Biology of Machines*: "The emergent step, though it may seem more or less saltatory [a leap], is best regarded as a qualitative change of direction, or turning point, in the course of events," writes [C. Lloyd] Morgan in *Emergent Evolution* [1923] . . . (Kelly 1994:15). And the Web-published essay "The Concept of Emergence" provides a contemporary (elenchic) critique of Professor Stephen Pepper's (1926) critical essay "Emergence". (Pepper's essay criticizes the notion of emergence for its epiphenomenalism, the dualistic doctrine that consciousness is merely a by-product of physiological processes and has no power to affect them. (Collins English Dictionary). Indeed, epiphenomenalism may seem to be very similar to some of the ideas propounded by many contemporary theorists of consciousness-as-emergent. Though this is not the place to provide another critique of epiphenomenalism, I think that in what follows we shall not find any advocacy of dualism.) Kelly characterizes these theories (or versions of the theory) thus: "In the logic of emergence, $2 + 2 =$ apples" (loc. cit.). According to these notions, emergence relates to a philosophical "becoming".

In its current usage, a usage inseparable from the theories of Chaos & Complexity the concept of emergence is bound up within the myriad architectonics of Connectionism. Kevin Kelly writes the following, "[Daniel] Dennett is slowly persuading many psychologists that consciousness is an emergent

phenomenon arising from the distributed network of many feeble, unconscious circuits" (Kelly 1994:54). And as soon as we hear the invocation of the "distributed network", we know we are in Connectionist territory. In Sadie Plant's "The virtual complexity of culture" (Plant 1996:203-17), the term "connectionism" has swarmed from the specificities of Computer & Cognitive Science to infiltrate a general cultural arena; indeed, Plant's work can also be seen as influencing such an infiltration. The import of the connectionist model, for her, goes beyond purely postmodern liberalism (as Sherry Turkle characterizes the non-technical use of connectionist metaphors). A connectionist approach, for Plant, is one which has a strong DeleuzoGuattarian political impetus.

Unlike traditional serial processing, Connectionism does not propose the linear hierarchy of information. Rather, it endeavours to connect all its parts to each other (parts that have been called "demons" in some systems, or "agents" in the early Perceptron system), it lets relationships form where links are strong in an effort to let the multiplicity "learn" from its "experience". What happens within the Connectionist arena is that information is not skimmed from the top of a hierarchic processing of pieces, but emerges from the entire machine working in concert. Turkle explains, albeit mystically: "Unlike information processing AI . . . the connectionists did not see information as being stored anywhere in particular. Rather, it was inherent everywhere. The system's information, like information in the brain, would be evoked rather than found" (Turkle 1996:132). Plant is somewhat less spiritual when she writes of the equation of intelligence with the workings of the Connectionist Machine:

What is now described as an "order-emerging-out-of-massive-connections" approach defines intelligence as an exploratory process, which learns and learns to learn for itself. Intelligence is no longer monopolized, imposed or given by some external, transcendent, and implicitly superior source which hands down what it knows or rather what it is willing to share but instead evolves as an emergent process, engineering itself from the bottom up. (Plant 1996:204)

Plant shows that the Connectionist approach, especially as it is informed by the philosophy of D+G (both separately and

combined), is emancipatory rather than oppressive.

Now we can see re-emerging some of the ideas outlined in the opening section of this paper. On one level, at its most fundamental, Connectionism provides for a multiplicitous approach to processing; in which case, the whole idea of "processing" goes out the window, for it loses the notion of a step-by-step, process towards a goal (information, intelligence . . .) and favours something approaching a swarm. A multiply connected "processing" swarm bears a remarkable resemblance to a strung-out Judge Schreber. We remember Schreber penetrated by a myriad celestial rays, his subjectivity multiplied & infected with a mutagen which enhances his powers of becoming. He is connected & through these connections all his bodily organizations are dissolved. Schreber ceased - long before Freud's textual encounter with him - to be limited, or defined by the boundaries offered by his body. Thus an easy answer to D+G's question: "How do you make yourself a Body without Organs?" could be, "Get Connected."

Plant shows that the workings of Connectionism are not only theoretically and functionally valid within a singular discipline, but should be allowed to flow across disciplines too. In terms of the human (rather than the transcendental workings of theory), however, such an approach has a profound impact. Connections can happen across species "barriers", across material "barriers" as well as across conceptual "barriers".

Subjectivity, Art, Culture

As a response to problems posed by the desire to infect machines with something approaching human-like intelligence, Connectionism seems currently very successful. There is an added irony in that the feedback-like re-mapping of human consciousness through Connectionism's approach to machinic intelligence has also been insightful. I have already mentioned the assertion (from Dennet via Kelly) that consciousness is an emergent property. Sherry Turkle notes that connectionism has had important ramifications for ego psychology too:

For [psychoanalyst David] Olds, connectionism challenges ego psychology by providing a way to see the ego not as a central authority but as an emergent system. Through a connectionist lens, says Olds, the ego can be recast as a distributed system. Consciousness can be seen as a technical device by which the brain represents its own workings to itself. (Turkle 1996:140)

The similarities between such a statement as this and the subjective concerns of - for example - Hume (personal identity as a jumble of perceptions), Kant (the subject as both a synthetic construct & a construct of synthesis) and even Nietzsche (the "I" as nothing other than a grammatical exigency), I think are remarkable. The individual subject, the ego, can no longer be seen as the fundamental basis upon which everything else can be built. It is not an Ursprung from a special point of mystical origin, but rather, emerges from the necessary affects, and capacities for being affected, of bodies.

Once we follow Plant's advice and pursue connections beyond their disciplinary boundaries, we may have to rethink our notions of the construction of subjectivity too. Once subjectivity is seen as emerging out of the complex and chaotic machinations of neural networks, then the attachment of these neural nets (Haraway's "biotic information processing systems") to other networks must radically alter the ways in which subjectivity is constructed. (It is interesting to remember that in his "Regimes, Pathways, Subjects", Guattari characterizes machines as "hyperdeveloped and hyperconcentrated forms of certain aspects of human subjectivity" [Crary 1992:18]. Before we are even materially connected to our technological offspring, Guattari shows that we are theoretically and psychologically connected to them.) Just as Judge Schreber felt himself to be strung-out on, and multipliciously fucked by a network of divine threads, his body emptied of its organs and their workings spread out on a universal scale around him, to be connected and reconnected at will; so we may be seen - especially with the growing emergence of the Internet, some would say - to be strung-out upon a network of inter-connected systems. The stuff of subjectivity swarms ever more chaotically. And individuality seems to be an ever more redundant and oppressive notion within this vast distributed, dynamic network.

Subjectivity does not represent the only way in which the concepts of emergence and connectionism relate to contemporary cultural concerns. In fact the very notion of "culture" itself can be regarded as an emergent property of widely connected phenomena-as Plant shows in the following, long passage:

Connectionist conceptions of the cultural do not merely operate within the parameters of a humanist discourse of individuals and societies, but they collapse distinctions between human life, natural life and the artificial lives of economies, on-line libraries and complex systems of every kind. Cultures are parallel distributed processes, functioning without some transcendent guide or the governing role of their agencies. There is no privileged scale: global and molecular cultures cut through the middle grounds of states, societies, members and things. There is nothing exclusively human about it: culture emerges from the complex interactions of media, organisms, weather patterns, ecosystems, thought patterns, cities, discourses, fashions, populations, brains, markets, dance nights and bacterial exchanges. There are eco-systems under your fingernails. You live in cultures and cultures live in you. They are everything and the kitchen sink. (Plant 1996:214)

Thus we are presented with subjectivity and culture as emerging from similar (if not the same) material. For Deleuze - following Spinoza - the body is described in terms of speeds and slownesses, capacities for affecting and being affected (see Crary 1992:625-33); he writes: "We call longitude of a body the set of relations of speed and slowness, of motion and rest, between particles that compose it from this point of view, that is, between unformed elements. We call latitude the set of affects that occupy a body at each moment, that is, the intensive states of an anonymous force (force for existing, capacity for being affected). In this way we construct a map of the body." (Crary 1992:629). Taking this Spinozistic perspective, we can see that these subjectivities & cultures are defined according to the same material. Once all our connections are materialized and desired, the multiplicitous flows constitutive of our subjectivities will be able to ooze, to proliferate. Distinctions and differences will breed and be fleeting as connections are grown & lost, weighted &

ignored at will. What will emerge from this pullulating mass of stuff? this soup of organs, chemical & digital information, software, hardware & wetware? I dunno...but I can't wait to find out.

Final Remarks relating to Art

How, then, do we relate all this to the question of Art? Or, rather, can all of this not be related to Art? I have already quoted Guattari as saying that machines are "hyperdeveloped and hyperconcentrated forms of certain aspects of human subjectivity", can this not also be true of art? As emergent and interconnected as any other cultural practice. And in this respect, does it matter just how such stuff emerges from the network of machines-subjectivities-cultures &c? (We should not forget that the word "technology" comes from techne and logos; and that techne relates to art, skill & craft, in all their possible definitions.) Once we are attuned to the importance of Connectionism, to subjectivity and culture as emergent, to the role of art in promoting such connections and emergences, then the way in which such art is produced, surely, becomes unimportant.

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