

Between Geophilosophy and Political Physiology

John Protevi
Department of French Studies
Louisiana State University
October 3, 2004

I'd like to talk with you today about some ways to link two conceptual fields: "geophilosophy" and "political physiology." Someone once told me upon hearing these terms: "I know what 'geo' and 'philosophy' mean and what 'political' and 'physiology' mean, but I don't have the faintest idea what they're doing together." So I'll explain these terms in a minute.

But first, let me note that these two are terms derived more or less directly from the collaborative work of the French philosophers Gilles Deleuze and Félix Guattari. Now I think it's important that analytic and continental philosophers learn to talk to each other, and I'm convinced that Deleuze and Guattari's work, when properly explained, provides a common ground for this discussion. That's because they provide the ontology and epistemology for a world that is able to yield the results we find in using non-linear dynamical modeling, as is common practice in quite a few scientific fields today, among them some of special interest to philosophers, such as brain studies. (Varela et al., "The Brain Web" *Nature Reviews. Neuroscience* 2001 is a review article covering one hundred or so studies of the 1990s that used non-linear dynamics for modeling brain function.)

I think Manuel DeLanda is right to claim in *Intensive Science and Virtual Philosophy* (London: Continuum, 2002) that Deleuze is a realist. There are a couple of implications here. First, the ontology Deleuze establishes may not be one that cannot be improved upon, but I do think it will serve as a constraint on future ontologies, in that future ontologies will need to be able

to account for the features of the world accounted for by Deleuze's ontology.

Secondly, although Deleuze is a realist, he is not an essentialist. That is, he is a realist with regard to what he calls the "virtual." In short this means that he doesn't believe surveying the properties of substances to identify essences as a finite set of necessary and sufficient conditions for membership in a category is a fruitful way of doing philosophy. Rather, for Deleuze, we should look to the virtual to see the structures of production processes, instead of looking to the properties of products to identify essences.

According to DeLanda's reconstruction of his work, the Deleuzian distinction of "virtual" and "actual" is a modal distinction, indicating the difference between long-term tendencies and momentary states of systems. Virtual tendencies or patterns of behavior are represented as attractors in phase space portraits of systems; other structures of the virtual realm are bifurcators, represented by singularities, which indicate the borders of basins of attraction, that is, the thresholds at which systems change patterns of behavior, and "sensitive zones," those areas between basins of attraction. These components of the virtual compose what Deleuze calls "Ideas" or "multiplicities," which we can simplify as groups of differential relations and the singularities they form. Such multiplicities account for structures in "morphogenetic" processes: again, the focus is on the production of substances, rather than their properties once formed.

The simplest example I know is that of water. 0 and 100 degrees Celcius (at sea level) are singularities or bifurcators or thresholds at which a contained body of water will change tendencies or attractors or patterns, moving from solid to liquid or liquid to gas forms. These virtual patterns and thresholds are multiply actualizable: both in many actual pots of water, but also as the freezing / melting or boiling / condensing points of other materials.

Some will claim that this capacity for multiple actualizations on the part of attractors is the cash value of “emergence” (Silberstein and McGeever, “The Search for Ontological Emergence,” *Philosophical Quarterly* April 1999; Thompson and Varela, “Radical Embodiment: neural dynamics and consciousness,” *Trends in Cognitive Science* 2001). “Complexity theory” is the study of emergence in systems which move from the complexity of unrelated component action to the relative simplicity of a focused systematic action. This constraint in behavior of components is compensated for by the increase in power of the system now operating as a whole. This coordination of constraint and focus is the production of an emergent effect, an effect that cannot be accounted for by aggregating the measures of the behavior of components, and is best demonstrated by the appearance of attractors and bifurcators in a phase space portrait.

Now of course there are lots of problems here still to be dealt with concerning the analytic philosophy questions of epistemological versus ontological emergence, synchronic versus diachronic emergence, mereological supervenience, and so forth (not to mention the questions some continental philosophers have about DeLanda’s work on Deleuze), but at least what we have are bona fide continental philosophers such as Deleuze and Guattari whose work can afford us a starting point in tackling questions that have arisen independently in analytic philosophy. This seems to me to be an excellent opportunity for dialogue, and I hope you’ll agree it’s better than continuing decades of mutual suspicion, uneasy *détente*, or worse, simply ignoring each other.

To continue with the exposition: a basin of attraction represents a stable situation in which systems can re-establish their basic pattern of behavior, adjusting themselves to instabilities that are below the threshold of the recuperative powers of the system, its “homeostatic mechanisms.” These instabilities can be generated internally or be the result of external events, but as long as they remain below the threshold of recuperation the system retains its basic pattern. But when a system is in a sensitive zone, tiny variations can push it in one direction or the other, towards a different basin

of attraction / basic pattern. Here the role of chance is irreducible, but only here, in the crisis or revolution or sensitive zone: in the normal operation of a system inside a basic pattern, such chance events are neutralized by the recuperative mechanisms. This is analogous to the damping out of non-average fluctuations in equilibrium thermodynamics treated by statistical mechanics.

You can easily grasp this idea in everyday psychological terms. When things are going well for you, little disturbances are just that, no big deal. But when you are at the end of your rope, the same flat tire that you shrugged off yesterday can flip you into a meltdown, to wildly mix metaphors. That this is such a banal example seems to me to illustrate that we have already established complexity theory as our “folk ontology” in everyday life. “The straw that broke the camel’s back,” and so on.

Now in these cases where you are pushed out of your “comfort zone” and into a crisis, you can sometimes fall back on other attractors which serve as emergency behavior patterns, virtually available and waiting to be actualized. Some, like freezing panic or blind rage, seem to be evolutionary inheritances, widely shared among mammals. These “affect programs” as Paul Griffiths calls them (*What Emotions Really Are*, Chicago 1997), seem to be agents or modules able to take over our bodily hardware and crowd out conscious control while they are in charge. (Let me be more precise: in a freezing panic, there does seem to be a conscious subject observing the situation, but conscious control seems suspended: you know you’re there and even if you want to move, you can’t. In a rage, on the other hand, there doesn’t seem to be a subject present anymore. “You” wake up later, after the rage has subsided.)

In other cases, the move into crisis can provoke the formation of new attractors, new habits or behavior patterns. If these are new only for the individual, but common to the species, we should call this “development.” If they are new to the individual, but common to the culture, we should call this “learning.” And if they are new both to the individual and the species /

culture, we should call this “creativity.”

Deleuze and Guattari call this creativity in forming new patterns, thresholds, and triggers, “absolute deterritorialization,” since they will call “territory” the construction of an environment laden with triggers for behavior patterns. (“Relative deterritorialization” would conform to development and learning.) One of the most fruitful areas of investigation across the continental / analytic divide is the closeness of this concept with that of “scaffolding,” though DG would not want to limit territoriality to cognitive behavior as seems to be the case with how the concept of scaffolding has developed to this point.

This investigation of territories is one of the meanings of the concept of geophilosophy. Now the narrow definition of the term “geophilosophy” in DG’s last work, *What is Philosophy?*, centers on the birth of Greek philosophy in a certain “plane of immanence” created in the *poleis* that allows *agon*, *philia*, and *logos* – competition, friendship, and argument; the Greek cities are able to sustain such a plane of immanence because they are close to, but separate from, the great empires of Egypt and Persia. But we can extend the sense of geophilosophy to include any philosophical reflection on the role of the earth in social processes: the sort of thing that one often calls “geopolitics,” for example, which will be my concern today.

Let me now define “political physiology.” It is the study of the construction of “bodies politic,” that is, the interlocking of emergent processes that link the patterns, thresholds and triggers of affective and cognitive responses of somatic bodies to the patterns, thresholds and triggers of actions of social bodies.

Political physiology has a wider application than consciousness studies. We need to go beyond consciousness studies in this field since political institutions interlock with individual physiology in emotional responses to commands, symbols, slogans, and images; such responses at least strongly condition actions, through unconscious emotional valuing, but

sometimes provoke behavior that completely eludes conscious control, as in panics and rages.

In particular, I've been interested in the act of killing and its relation to political sovereignty. The traditional definition of sovereignty is that it is vested in the political body that holds the monopoly on the legitimate use of force within a clearly defined geographical territory. Thus, at the limit, a political body must be able to control the triggering of killing behavior in the bodies of its "forces of order" (army and police).

Now it turns out such control is less easy than one might think. Not simply in limiting force to the army and police, but in triggering killing itself. Recent work in military history points to a deep-seated inhibition against one-on-one, face-to-face, cold-blooded killing on the part of some 98% of soldiers (Grossman, *On Killing*, 1996). The biggest problem of military training is how to overcome this deep inhibition. It's not that societies have to stop a natural impulse to murder; far from it. Armies need elaborate training to compel the vast majority of soldiers to kill, and even past basic training, elaborate social technologies such as the firing squad are needed to facilitate cold-blooded killing. One tried and true solution to the inhibition problem is triggering rage in the fighters, but this "warrior" solution creates containment and control problems, for the warrior is not the soldier: the soldier kills only on command, but the warrior kills when his honor is threatened: "you lookin' at me?" .

The answer to the killing problem lies in the "multiplicity" or virtual field underlying killing. The political physiology of military killing entails articulating the patterns, thresholds and triggers of the military unit with the patterns of intensity, the thresholds of inhibition, and the triggers of command embedded in the soldier's body.

What are some factors in enabling military killing? The most well-known are distance, machinics, teamwork, command, and dehumanization. These form an "Idea" (Deleuze 1994) or "abstract machine" (Deleuze and Guattari

1987) in that together they form a multiplicity, or group of differential relations and singularities. All these factors are socio-somatic corporeal techniques which, when combined in a “solution” or “machinic assemblage,” lower the intensity of the act of killing so that it falls below the threshold that would inhibit in most people close-range killing with the hand.

Distance (or more precisely the differential relation of rates of change of advance and retreat) and machinics (or more precisely the assemblages composed between humans and machines – guns, knives, etc.) combine so that it’s not a very intense act just to push a button when far away from the killing. Teamwork and command (horizontal and vertical social relations that are differentially composed and strewn with singularities) will combine to disperse the intensity among a larger social body – it’s not me killing you, but my group – phalanx, legion, battalion – fighting yours. Finally, with dehumanization, the intensity of the act of killing an animal is below the threshold of inhibition for killing a human – the whole point behind Grossman’s distinguishing of fight or flight (inter-species) from display and submission (intra-species). Repetition in training serves to lower the intensity even more. Artillery and aviation troops have such great enablers from distance, machinics, teamwork and command that they achieve close to 100% “fight to kill” rates without even much need to resort to dehumanization of the enemy.

At this point I’d like to see how the political physiology of killing interlocks with some geophilosophical concerns. Here we are concerned with social bodies and the patterns, thresholds and triggers that regulate the flow of matter and energy through them. Here we are brought to study the work of Karl Wittfogel and Georges Bataille, whose works on “hydraulic civilization” and “general economy” can be brought together in the study of the expenditure of surplus solar energy accumulated in social bodies.

Now I know that some of Wittfogel’s theses have been proven wrong, but this is so in a way that increases his relevance for a Deleuzean account, in that the origin of irrigation in Egypt was local before being overcoded by the

State. Wittfogel seems to say the State was the origin of irrigation, rather than the overcoding force. In any event, the important thing is that aridity is the key to irrigation and stratified societies. An excellent work on the American West by Donald Worster, *Rivers of Empire*, shows how the large-scale state and federal investment in irrigation could only produce stratified societies in arid conditions, where control of water grants a key power position. (Recall the plot of *Chinatown!*)

Bataille's work is very interesting. You don't have to buy into his more melodramatic formulations to recognize that looking at circuits of solar energy as the basis of life is not controversial at all, but the basis of biology. And looking at the ways societies waste excess in wars or monuments can help a lot in thinking about political economy, especially the Marxist questions about capitalist crises of overproduction and the "realization of surplus value."

In principle we could look to the articulation of political physiology and geophilosophy in contemporary life, in the two Iraq wars and their bizarre American offspring, the SUV, where global petroleum wars meet the anxious individual driving an armored car around suburbia. But today I will focus on the ancient Mediterranean, since it will enable me to talk about some famous moments in the Homeric epics. Besides, Colin Renfrew's work on the 1200 BCE Eastern Med collapse, the trigger of the Trojan War, was an early attempt to use systems theory or catastrophe theory and so is of interest to our concerns ("Trajectory Discontinuity and Morphogenesis: The Implications of Catastrophe Theory for Archaeology." *American Antiquity* 43: 203-22, 1978).

Some geopolitical basics: Ancient empires needed flat river valleys, for irrigation-intensive agriculture and to install garrisons in outlying towns which can be quickly supported: the *corvée* supplies labor for roads as well as for irrigation and monuments. Once past a certain threshold, we find a positive feedback loop (the empire, like all social bodies, can be seen as a complex dynamic system regulating material flows): the bigger the territory

under control, the more solar energy is captured in agriculture and the larger the bureaucracy and the army that can be fed with the surplus. These can then enlarge and administer the territory and put more peasants to work producing and funneling surpluses and building roads for more expansion, and so on.

Poleis on the other hand need mountainous terrain to maintain independence, each mountain range enclosing a farming region, the small farmers of which were able, by forming a phalanx, to overcome aristocratic dominance and demand *isonomia* or equality before the law. Sparta was the only polis to enslave another group, the *helots* of Messenia, whom we can surmise were behind the curve in forming a phalanx of *hoplites*, that Greek innovation in bringing co-ordinated or “entrained” organisms whose muscle power (fed by the sun captured in grain and meat) is focused in an advancing wall of shields and spears. Sparta, as we know, paid the price of a complete militarization of its social machine in order to maintain its dominance of the helots. William McNeil’s *Keeping Together in Time: Dance and Drill in Human History* (Harvard, 1995) has fascinating details on Spartan drill and march as entrainment processes allows for the emergent effect of the phalanx’s power.

The warrior band moves in the interstices of polis and empire, breaking free when the homogenizing forces weaken and setting out to tap the agricultural and artisanal surpluses of sedentary systems. The warrior band breaks established channels of surplus production and distribution, moving bodies and luxuries outside their usual circuits: deterritorialization as DG would call it. The legendary “Sea People” of the 1200 BCE collapse seem to have been such warriors, as do Odysseus (“sacker of cities”), Achilles, and the other freebooters who join Agamemnon and Menelaus.

This is not “geographical determinism”: in the phase space of a complex system such as human social organization there is more than one attractor and the role of chance is irreducible. What does set the contours of the virtual field for the morphogenesis of political units is the multiplicity or

group of differential relation between environmental factors such as ground slopes, surface friction, and vegetation; maritime currents, channels, and wave strengths; the speed capacity of available transportation assemblages, which are social – technical at the same time: man – sandal assemblages, horse – man – stirrup assemblages, chariots, wagons, sailing ships, rowing ships, etc. All this makes what the US military now calls the problem of “force projection” a complex problem, or what Deleuze would call an “Idea” or multiplicity.

It may seem odd at first, but olive oil is the key to explaining Athenian democracy. Olive oil is a storage form of solar energy burned for light in lamps and burned for energy in human bodies. The “tipping point” toward democracy in Athens (the singularity in the phase space or multiplicity of social organization: their little section of the virtual realm) occurs when Solon forbids debt slavery as well as all agricultural exports except that of olive oil. This stabilizes the middle class of small farmers who were threatened by aristocratic dominance. These farmers produce olive oil as a cash crop (a small part of their total production, to be sure: it is the large farmers who dominate the oil market; nonetheless, it is a crucial money source – and money is needed for taxes: I support DG’s thesis of the political rather than commercial origin of money.) This kick starts work by urban artisans: jars for olive oil and manufactured goods for export (also arms for hoplites to forestall aristocratic re-conquest). A growing urban population needs grain importation. Protecting this needs a naval force: Themistocles and the wooden walls in 480, and the Long Walls connecting Athens and the Piraeus. This necessitates democracy; rowers drawn from ranks of urban masses. Fighters must be able to speak out, as we will see in a moment.

The geo-morphogenetic key to the transition from Athenian democracy at home to the “Athenian Empire” after the Persian Wars is the threshold of human energy production from grain ingestion. As GEM de Ste. Croix points out (*Class Struggle in the Ancient Greek World*, Cornell, 1981) rower-powered war ships had a much shorter range than sail-driven merchant

ships, which are able to capture solar energy in form of wind power (temperature differentials of land mass / sea / water currents produces wind). So the Athenian democrats needed a network of friendly regimes whose ports could serve to refuel and rest the rowers. All this democratic naval geo-political philosophy explains why Plato in the *Laws* put the ideal city away from the sea, and why in the same dialogue hoplite victory in the land battle of Marathon is praised over democratic rowers' victory in the sea battle of Salamis.

The materialist account of the “military egalitarianism” thesis for the origin of democracy is that in order to stand the stress of combat, you must be able to speak in order to “psych yourself up.” Now talk about war in the form of strategy – should we fight, and how? – is limited in the Homeric epics to the council of nobles; the army can only say yea or nay in the assembly. An uncomfortably close analogy to the American spectacle of elections!

The more interesting type of talk about war is “trash talking” in the *Iliad*. The physiology of fighting is that to overcome an inherited and universal intra-species inhibition on close-range killing warriors need rage. Rage will release endorphins, which are anxiety-reducing and analgesics, pain-killers. (This is of course shorthand for a complex biological process, but it seems plausible endorphins are a key player in this state). The repetition of such rages however is traumatic: they produce chronic high endorphin levels, which set a high threshold for new endorphin release. Putting yourself into danger, and the trash talking that accompanies it, thus has to escalate: you need more and more stress, more and more danger to get the same rush. “Normal life” triggers will then not be able to push body past threshold of endorphin release. Thus outside of battle – think Achilles' sulking when he deprives himself of battle throughout most of the *Iliad* – the warrior feels “dead”: there's no *joie de vivre*. In fact, he (I'm using the masculine pronoun here, but let's not forget the Amazons) is “objectively” deprived of endorphins. There's a lot to think about here in terms of affect and experience, physiology and consciousness, affect and cognition: was Achilles “thinking straight” when in his depression he allowed Patroclus to

fight in his stead?

Now democratic rowing in the Athenian navy was relatively low intensity, at least compared to the hand-to-hand fighting depicted in Homer (actually, “hand to hand” is misnomer: shield and sword / spear is itself quite a bit less intense than just one on one with hands.) There is thus less necessity for the high intensity training needed for noble single combat: this only makes sense in that the relative “capital investment” for an agricultural society to produce an aristocratic warrior is much greater than that for a complex trading society to produce a rower. To produce such a warrior body you need to traumatize it by lots of intensive hunting and fighting as boys: think of Odysseus’s scar from his adolescent rite of passage: the boar hunt.

Phalanx training was intermediate between aristocratic single combat and naval rowing; it is less intense than single combat, because of teamwork, that is, emergence. In the phalanx, you stand by your comrades rather than surge ahead. Recall Aristotle’s definition of courage as the mean between rashness and cowardice: in concrete terms, rashness for the phalanx is standard behavior for the warrior, while phalanx courage – staying with your comrades – would be mediocrity if not cowardice for the warrior. (This, by the way, is an excellent example of the Deleuzean distaste for essentialism: you’ve never going to be able to come up with a set of necessary and sufficient conditions to define “courage”: much better to investigate the morphogenesis of warrior and soldierly bodies and see if there are any common structures to those production processes. How are the warrior and the soldier different actualizations of the virtual multiplicity linking political physiology and geopolitics?)

And this standing together is the key to the *eros* -- ecstatic union with a social body – of the phalanx. McNeill, *Keeping Together in Time* and other works allows us to account for this human bonding in terms of resonance and “entrainment” of a subjective physiological processes triggering endorphin release. Remember the discussion in the *Symposium* about

Homer's not being explicit about sex between Achilles and Patroclus. Later Greeks, soaked in the *eros* of the phalanx, assumed sex between them, the only question is who was lover and who was beloved.

Homer is the great ancestor of all political physiologists in his treatment of Achilles, Hector, Odysseus. Achilles' rage triggers include insult to honor. But "honor" is not a sentiment for Homer's Greeks. *Timé* is stuff: tangible and visible signs of esteem, usually in the form of women and gold, but also the best cuts of meat and wine. Recall the dialogue between Sarpedon and Glaucus: "Why do we fight? For the meat, the wine, and the land." In materialist terms, the meat is for muscle-building, the wine is for coming down off of high of battle, the land is to produce these inputs.

Homer's portrayal of Hector's dilemma concerning glory is great. When asked by Andromache in Book 6 (and later by Priam and Hecuba in Book 22) to fight from the walls, he replies "I would feel a terribly great shame before the Trojan men and the Trojan women, with their flowing robes." We might even say Homer has what Damasio would call a "somatic marker," a flashing scenario of what it would be like for his body to experience the removal from his constant bath in the positive feedback of admiring glances, which constantly keep his endorphins flowing. Without the reinforcement of those glances, he has no triggers for endorphins and would become depressed. He flashes onto this future, this way in which he would "die of shame." (Just as we have a "folk ontology" of complex systems I think we also have a "folk political physiology": we've always known you can die of shame or of a broken heart, that is, that the social and the somatic are intimately linked; it's just the Cartesian dualist ontology, the folk ontology of mechanistic medicine, that overlooks this or is troubled by it.) Thus Hector's choice to fight is really the choice of form of death. He doesn't have Achilles' choice: a short glorious life or a long dull one. Hector's choice is a short glorious life or a short depressed and inglorious life.

The problem is that his warrior body would need a long reprogramming to

be a soldier and fight from the walls. Soldier fighting is *poietic*: done for the sake of something greater outside the action: that is, the safety and glory of the polis. Soldier fighting done in phalanx is lower intensity: group *eros* versus the high of warrior fighting done in a rage. Warrior fighting is *praxis*: it is done for its own sake, or more precisely, it's done in order to deal with the traumatized warrior body, to get the next endorphin fix: its necessity is immanently produced rather than transcendently imposed.

In his voyages Odysseus undergoes just the sort of long deprogramming Hector couldn't. In crying on the beach of Calypso's island for 7 years he's mourning his death as a warrior, that is, he's reprogramming his joy / endorphin triggers, which are set at a very high level due to the intensity of battle. This is what all mourning is, finding new endorphin triggers. This is why "breaking up is hard to do": love is an intense state in which high levels of endorphins are released ONLY in the presence of the beloved. This sets your endorphin release threshold very high. Thus everyday life is boring (its triggers can't push you past that threshold of endorphin release) and you neglect your friends. "You never call since you met him / her!" But when the love trigger is disengaged, then you have no triggers at all that can reach the high threshold for endorphin release. That's why your friends always recommend a hobby, meeting new people: you have to form new triggers. And Ares and Aphrodite are a couple because love and war can both be intense, erotic-ecstatic, physiologically traumatizing and addictive experiences. Madonna showed her pop-culture genius in 1991 when she called General Schwartzkopf "the sexiest man in America," thereby positing herself as Aphrodite.

Putting together the micro and macro scales of political physiology and Bataillean / Wittfogelian geopolitics we see that Homeric war is a means of transporting gold and women and killing warriors and thus wasting surplus energy (the work of farmers to feed warriors as well as the miners and artisans who supply them). The subjective level just provides triggers for war. Helen as excuse, as Herodotus shows: only fools would fight for a woman. She couldn't have been the real reason, the pragmatic / skeptical

Persians say.

Homeric war is systematic necessity on two scales. Above the subject we find the need to regulate the circuits of surplus solar energy production, distribution, and consumption, while below the subject we see the need to manage the traumatized warrior body. Preventing such violent bodies from hanging around the court, by the way, is a “rational” reason for war from the perspective of the sovereign: send them out on adventure: Trojan Wars, Crusades, whatever the reason, just get them away from home! Since this holds as well on the “other” side, we see the need for war, the need to kill off these excess warriors.

So we can see that for the ancients the excuses for war are contingent, while war itself is a necessity. And thus we must recognize the mystification involved when Homer credits to a transcendent being or force the workings of an immanent system: he gives name of “Zeus” or “fate” to this systematic necessity arising from the interlocking of political physiology and geopolitics.