Deleuze Beyond Deleuze: Thought Outside Cybernetics

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Introduction

What if we read Gilles Deleuze's late essay on control societies not as a contribution to Foucault's map of power but as a retrospective critique of his own work (Deleuze 1992)?

The "Postscript" is a brief essay. That alone is not peculiar for Deleuze, whose many short essays have filled quite a few collections (two appearing during his lifetime, *Negotiations* and *Essays Critical and Clinical*, and even more posthumously, *Desert Islands*, *Two Regimes of Madness*, and the forthcoming *Letters and Other Texts*). Moreover, the essay is just one in a long series of encounters between Foucault and Deleuze, beginning with their shared interest in Nietzsche, continuing through reviews they wrote of each other's early books, intensifying through their collaborative work with the Prison Information Group, crystallizing in the dialogue "Intellectuals and Power" and Foucault's electrifying preface to the American edition of *Anti-Oedipus*. Their relationship ultimately cooled, ending with Deleuze's friendly (but critical) letter "Desire and Pleasure" to which Foucault never responded (Deleuze 1997). The encounter did not conclude there. Deleuze subsequently dedicated a whole course to his late friend's thought, resulting in a book (Deleuze 1988). Against those many essays and engagements with Foucault, the "Postscript" seems to tower above the rest.

Some of the outsized significance of the "Postscript" can be attributed to its place in the history of ideas: Deleuze's essay is expressly a commentary on Foucault's disciplinary societies, the concept that helped the latter secure his legacy as the twentieth century's thinker of power. Further helping the "Postscript" stand out is how it filled a gap left in Foucault's genealogy of power. Foucault generally avoided the present or future – though he did tempt readers on a few rare occasions, such as the conclusion to *The Order of Things* in which he predicted the end of the human subject, and in occasional pieces like interviews with gay publications or the works of the Prison Information Group – leading Deleuze to declare that "*Foucault's interviews form an integral part of his work,*" namely by forging a praxis out of an explicit connection between past and present

(Deleuze 1988: 115; Foucault 1970; Groupe d'information sur les prisons 2013). But when most faithful to his genealogical method, Foucault stuck to the idioms of the past.

In contrast, Deleuze's "Postscript" speaks directly to the present, leading many to read it as a completion of a series outlined by Foucault (Dean 2009; Lemke 2012; Nealon 2007; Rose 1999). That series: sovereign power, social power, disciplinary power, bio-political power, and finally, control (Figure 1).

Time of Flourishing	***1650-1789***	***1780-1820***	***1820-1968***	***1850-Present***	***1980-Present***
Mode of Power	Sovereign	Social	Discipline	Biopower	Control*
Theory of Power	Juridical	Ideology**	Micro-physics	Governmentality	Neo-liberalism
Primary Actor	King	Jurist	Expert	Subject	Self-entrepreneur
Primary Target	Bodies	Souls / Rights	Productive-Political Capacities	Lives: Individual / Population	Personal Capital
Primary Method to Access Target	Pain	Signs	Training	Survey / Confession	Diagnosis / Market Research
Primary Practice to Attain Goal	Ceremony	Representation	Exercise / Examination	Normalization / Risk Management	Therapy / Investment
Most Intense Form	Torture	Theatrical Punishment	Panopticism	Sexuality	Pharmaco-genetics
Desire Outcome	Obedience	Community	Docility	Auto-control	Optical Return on Investment
Form of Knowledge	Law Book	Philosophical Essay	Dossier	Statistical Manual	Price Graph
Privileged Science	Jurisprudence	Philosophical Psychology	Human Science	Political Economy	Micro-economics
Economic Form of Control	*Prélèvement* (Simple Taxes)	Public Work	Fine / Reward	Welfare / Insurance	Debt (Public / Household)

Figure 1: Foucault Social Power Chart (Protevi n.d.)[1]

[1] Chart used by permission from John Protevi, who wishes to acknowledge Jeff Nealon for the origin of the idea.

In this essay, I do not refute that Deleuze cartographically extended his friend's work beyond life. However, I hold possible a second reading: that in the "Postscript," *Deleuze encounters Foucault to double back on his own thought, creating a fold that allows him to reassess his own philosophy. In particular, he critiques cybernetics to reveal political traps inside his own metaphysics.*

Two Lines: Diagrams and Folds

The cartographer's diagram: Foucault's work on power mapped the relations of forces. He found abstract machines that determine the pure functions of the social field. The exemplary diagram of power for Foucault, of course, was Bentham's panopticon. And while it may be grasped as an arrangement of visibilities, following the general formula of 'seeing without being seen,' its ultimate purpose was "*to impose a particular conduct on a particular human multiplicity*" (Deleuze 1988: 34). This is why the concrete features of Bentham's design were incidental to Foucault – he was interested in the panopticon as a "diagram," with abstract functions that operate regardless of any particular use. Diagrams thus correspond to the great many abstract machines that produce social reality: the theater of sovereign ritual, the cosmologies of non-state peoples' complex alliances, and capitalist factories that extract energy from matter.

Foucault moved swiftly from the prison to sexuality, soon promising to explore four crucial figures in which sex is taken as the object of power: the hysteric woman, the masturbating child, the Malthusian couple, and the perverse adult (1990: 105). But his research began taking a different path, as reflected in his lectures at the Collège de France, which explored the origins of government, the politics of truth, and ultimately, the self. This path interrupted Foucault's previously prodigious writing, leading to a period of long silence.

Symptomatically diagnosing Foucault's silence, Deleuze saw his friend feeling trapped, wracked by an "*incapacity to cross the line*" (1988: 94). The state of affairs that caused it: a restratification of transversal lines of resistance. Namely, the defeat of the prison movements of the 1970s and wider global events. Crucial to Foucault finding his voice again, Deleuze proposed, was a principle of power in which "the force of the outside continues to disrupt the diagrams and turn them upside down" (1988: 94). In short, Foucault charted a new path by disrupting the maps of power he had written, activating a new line.

The folds of the self: How are we to understand Foucault's turn to the self? As an archivist, he traced how knowledge forms strata, as a cartographer, he mapped the rela-

tions between forces, and as a thinker, he located thought in the non-relation of the outside (Deleuze 1988: 96). Foucault's method, then, was drawing lines that took interiorities to be illusory. For example, diagrams like the prison may appear self-contained, but they "neither enclose nor interiorize anything" (1988: 43). Blanchot further elaborated that in Foucault, "confinement refers to an outside" (1988: 43). Its purpose: to disperse statements and visibilities. The self, then, provided Foucault with a fourth line: that of the fold.

The fold distilled the topology behind Foucault's whole corpus. Abstractly, "the inside as an operation of the outside" (Deleuze 1988: 97). With it, Foucault freed the self from those who would confine it to a private cell, whose darkness stretches toward infinity. Its interiority, that of an 'origami-subject.' Origami because its insides are an actualization resulting from the folding of the outside on itself – a rhythmic movement that Deleuze saw in the microscopic to the cosmic, in the folding and unfolding of proteins to the systolic-diastolic heartbeat of the Big Bang.

Even while taking the self's interiority to be an illusion, Foucault found something unique in its folds. Having acquired an inside, the self becomes capable of differentiation. Said otherwise, his subject is that which conjures its own double. To be clear, Foucault carefully avoided the psychoanalytic topologies of a subject that splits, harboring within a drama between various guises of itself that it projects outward. The Foucauldian self is rather how the subject emerges from a redoubling of the outside. The importance of this distinction is found in the subject's newfound capacity. As the subject is a product of force being folded back on itself, it gains the corresponding power of a force that relates back to itself. The power of the outside furnishes the ability to confront oneself. "To get free of oneself," in short: the capacity to critique (Deleuze 1988: 96).

A Line of Flight: Have we found ourselves, as Foucault was, once again incapable of crossing the line? The "Postscript" can certainly be read as a cartographer's map, drawing a new diagram of power. For it seems that Foucault and Deleuze shared a distaste for the present – their appetites leading in the opposite directions, one to the past and the other to the future.[2] In a climactic point in his reading of Foucault's folds, Deleuze outlines the subject's relation to the past, present, and future:

[2] In *What Is Philosophy?*, Deleuze and Guattari took Foucault to be an exemplary thinker of the "Now" (1996:112). Providing an explanation for Foucault's paradoxical title as a 'historian of the present,' they argued that he was concerned with an actual that is "not what we are but, rather, what we become," "our becoming-other," and not a present that is "what we are and, thereby, what already we are ceasing to be" (1996: 112). They footnoted Foucault's statement from *The Archaeology of Knowledge* that "it is not possible for us to describe our own archive," as analysis "involves a privileged region: at once close to us, and different from our present existence," the "border of time that surrounds our presence, which overhands it, and which indicates it in its otherness," "that which, outside ourselves, delimits us" (1976: 130).

> But this involves thinking of the past as it is condensed in the inside, in the relation to oneself (there is a Greek in me, or a Christian, and so on). We will then think the past against the present and resist the latter, not in favor of return but 'in favor, I hope, of a time to come' (Nietzsche), that is, by making the past active and the present to the outside so that something new will finally come about, so that thinking, always, may reach thought. Thought thinks its own history (the past), but in order to free itself from what it thinks (the present) and be able finally to 'think otherwise' (the future) (1988: 119).

Which is to say, a new line awaits us – one that disrupts our now-calcified diagram of control. It means exposing stratified notions of control to the future it could not have anticipated, pushing them to the point of rupture. A doubling of Deleuze. Folding his thought so that we can once again take another step.

Cybernetics' Control Revolution

Even if Deleuze's "Postscript" is about himself, he carefully avoided self-flagellation. He confessed nothing. Rather, he produced his own double. The latter stepping outside himself, getting rid of the former. But what would Deleuze have to get rid of? My proposal: cybernetics.

Control became synonymous with cybernetics in the mid-century. Cyberneticians with a penchant for building systems tried to make cybernetics into one great metadiscipline, much like philosophy's previous status as the queen of the sciences. But academics in general remained too entrenched in hyper-specialization to adopt the moniker, even as they absorbed its methods of systems-analysis and behaviorism that came to redefine the fields of mathematics, engineering, biology, computer science, psychology, ecology, sociology, design, and business management (Kline 2015). Cybernetics found more favor in the strategic analyses of post-war military think tanks like RAND or the counterculture. The latter was intrigued by Bateson's idea of mental ecology, which took root in Stewart Brand's *Whole Earth Catalog* and blossomed with the burgeoning cyberculture – later appearing in the hacker ethos that helped turn ARPANET into the world wide web, the ethos of technology incubators like Xerox PARC, the mantra behind its publications like Wired Magazine, and the interdisciplinary experimentation of its research outposts like MIT's Media Lab (Turner 2006). The promise of the new digital world they were developing: "flatten organizations, globalize society, decentralize control, and help harmonize people" (Negroponte 1995).

Cybernetics offers a window into a new aesthetic regime and general epistemology that emerged after World War II (Halpern 2014). Its aesthetic regime, a reconfiguration of vision as autonomous and networks observation as embodied in sensors and cameras,

proliferating through information-based data-visualization typified by interfaces, all operationalizing feedback as a form of targeting and tracking. Its new form of reason, recomposing knowledge as communication by way of interactivity, environment, and prediction rather than ontology, materiality, or description, which led to the reframing of problems as perceptual and psychological, thus emotional and affective like the nervous system – setting them up to be resolved through population-level environmental actions of "users" trading in attention, energy, and anything else that can be made into units of credit.

Essential is the 1948 publication of MIT mathematician Norbert Wiener's book *Cybernetics: Or Control and Communication in the Animal and the Machine*. In it, Wiener theorized that the age of the clock and the steam engine had been superseded by "the age of communication and control" (1963: 30).[3] The paradigmatic device of control, fire-control artillery, unified a computer, director, and radar to target, track, and hit unpredictable moving objects like airplanes. The fire-control apparatus, for Wiener, expressed "the essential unity of the set of problems centering about communication, control, and statistical mechanics" that he thought capable of governing all human, machine, or animal behavior (1963: 11). The military origins of the technology persist in how movement is taken to be a problem. So when the problems shifted to seemingly innocuous domains, the war-time anxiety over external threats persisted. Namely, that external stimuli are a threat to homeostasis, so they must be forecast, followed, and neutralized. This problematic formed a clear correspondence with the Keynesian planning state, which worked to counter the whims of the market through countercycle fiscal policies to guarantee full employment and price stability (Bernes 2017: 100).

Wiener was not alone. A whole cadre gathered to found a new general science of the mind in New York at a series of ten conferences from 1946 to 1953. Convened by the Josiah Macy, Jr. Foundation, it gathered physicists, biologists, neuroscientists, mathematicians, and engineers, as well as social sciences and humanists like the anthropologists Gregory Bateson and Margaret Mead (Kline 2015: 1-4). There they circulated early reimaginations of feedback, information theory, entropy, semantics, homeostasis, self-regulation, teleology, complexity, neural networks, machine-learning, object-recognition, and game-playing machines (Pias 2016).

Summarizing the Macy Conference's first wave of cybernetics theory as "homeostasis," Katherine Hayles has traced how it was succeeded by two more waves (Hayles 1999). The second wave, "reflexivity," she defined by an interest in self-organizing autopoietic systems, the recursive role of observation as part of a system, and the informational closure that creates a structural coupling between a system and its medium/envi-

[3] Because Wiener made some minor changes and added two chapters to the first edition of *Cybernetics*, scholars tend to use the second edition, which was first printed in 1961.

ronment. The third wave, "virtuality," she identified with the shift to open systems, in which the image of life moving through a series of meta-stable forms in an ongoing process of evolution overtake both static and reactive organisms – its subsequent concepts of emergent qualities, multi-dimensionality, nonlinearity, and irregularity helped constitute the fields of chaos theory, complexity theory, and dynamical systems theory (Figure 2). Together, the three waves culminated in the idea of a computational universe in which "the great cosmos itself is a vast computer and that we are the programs it runs" (Hayles 1999: 239). Those most intrigued by the idea of a computational universe were not indifferent to its social and political consequences; in fact, that is what drew many of them to it.

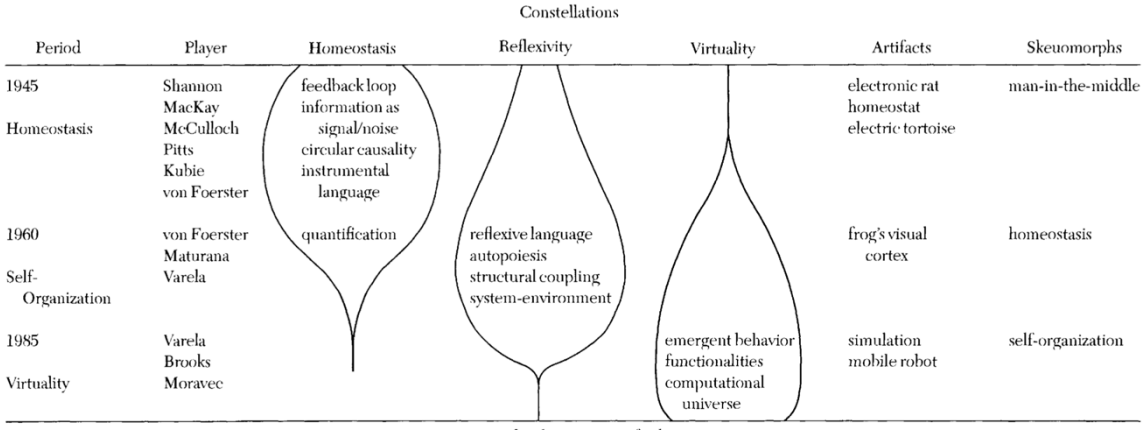

Figure 2: The Three Waves of Cybernetics (Hayles 1999: 16)

A "Control Revolution" has swept the world, proposed James Beniger in a political celebration of control disguised as a historical study (Beniger 1986). That revolution, "a complex of rapid changes in the technology and economic arrangements by which information is collected, stored, processed, and communicated" allowed for "formal or programmed decisions" to operate at a society-wide scale (Beniger 1986: 426-27). Its precursor, he claimed, was a crisis in control triggered by the new speeds of the industrial revolution as "goods began to move faster than even the winds themselves" and "the processing of material flows threatened to exceed in both volume and speed the system's capacity to contain them" (1986: 218). The series of crises he laid out began with transportation in the United States as seen in railroad accidents, later reverberated through distribution, production, and finally, marketing, climaxing in the 1880s (1986: 429). Emerging to resolve that crisis, Benigner argued, were innovations in telecommunication (telegraphy, postal reforms, telephony), organizational systems (routing slips, cost control, uniform accounting, factory timekeepers, specialized clerks), mass control (full-page newspaper advertising, trademark, print patents, corporate publicity, million-dollar advertising campaigns), and continuous-processing machinery – which together led to a "restoration" of political and economic administration representing "the Control

Revolution" (1986: 432-33). But he also gave the revolution another name, "The Information Society," whose force would only increase with microprocessing (1986: 435-36).

A true believer, Beniger not only took society but all of life to be an information processing system (1986: 32-34, 179-84, 106-18). He saw all physical systems as controlled through three dimensions: existence, experience, and evolution:

> *Existence or being*, the problem of maintaining organization – even in the absence of external change – counter to entropy
>
> *Experience of behaving*, the problem of adapting goal-directed processes to variation and change in external conditions
>
> *Evolution or becoming*, the problem of reprogramming less successful goals and procedures while at the same time preserving more successful ones (1986: 65-68).

He thus equated control with programming, which is to say, any act of physical encoding (1986: 41). Once rid of "consciousness, planning, purpose, or any other anthropomorphic qualities to aggregate levels," Beniger wrote, programming was free to take over life, culture, bureaucracy, and technology, giving way to genetic, cultural, organization, and mechanical programming (1986: 39-42, 103, Table 32). The ultimate triumph of the control revolution: that Adam Smith's invisible hand now reached deep inside all life, or at least that which can be rendered computable by decision (1986: 41, 49).[4]

In sum, cybernetics sought to replace metaphysics.[5] Its political vision of control, no less utopian than Henri Saint-Simon's industrialized dream of replacing the government of soul with the administration of things. Now finally possible with a new aesthetic regime of observation, interfaces, and targets, and a generalized epistemology of communication and perception managed in the aggregate.

Into the Fold, and Then Out

The impact of cybernetics on Deleuze might be best traced through his collaborations with Félix Guattari. The most obvious starting point is *A Thousand Plateaus*, which bears a title inspired by cybernetician Gregory Bateson (Deleuze/Guattari 1987: 21-23). Bateson and other second-order cyberneticians were incredibly popular with the counterculture, especially those in the New Left looking for post-capitalist organizational

[4] For an account of how this paradigm shifts control from a preventive paradigm of protecting a homeostatic organism against external threats to a neo-liberal navigational paradigm seeking to 'make cash out of chaos,' see my forthcoming essay in *symplokē*.

[5] This was Martin Heidegger's critique of cybernetics – stated bluntly in his infamous 1966 *Der Spiegel* interview (Heidegger 1981), various seminars (Heraclitus, Zollikon, Le Thor), and his short piece "The End of Philosophy and the Task of Thinking" (Heidegger 2002).

forms free of domination. It is no surprise, then, that Guattari appeared fond of cybernetics. Not only was he attracted to new ideas that might scramble old models, but he traveled in New Left circles across the globe. However, an issue with cybernetics that only later became obvious was that it also appealed to hyper-capitalists looking to expand and innovate techniques of exploitation. As a result, it ended up serving as a "lingua franca of people who thought the problems of the age arose from too much control as well as those who thought it arose from too little," sealing an unfortunate alliance between elements of the far left and the far right (Bernes 2017: 88). In my reading, the "Postscript" offers both an occasion to reexamine the proximity between Deleuze's thought and cybernetics, and new lines to its outside.

One way to describe *Anti-Oedipus* is as an effort to renew Marxism and psychoanalysis by updating them for the new century (Deleuze/Guattari 1977). Marx's own philosophy offers a guide, namely his transformation of the eighteenth-century triad of German Idealist philosophy, English political economy, and French political thought into a revolutionary synthesis. This method was in the air during the writing of *Anti-Oedipus*, with Louis Althusser's 1965 book *For Marx* famously taking up Marx's claim to have stood Hegel on his head, to turn him right side up again (Althusser 1996: 89-90). Hence, Deleuze and Guattari quipped that "Freud is the Luther and the Adam Smith of philosophy" (1977: 271). Their concern was that psychoanalysis still treated the unconscious as a theater that dramatically played out myth, tragedy, and dreams – while for them, the psyche was a world of molecules synthesized like a factory. A molecular approach to the psyche was itself fresh on the minds of psychiatrists. Only as recently as the 1950s did psychiatry resynthesize molecules that would lead to the first effective antidepressant, initially derived from leftover V2 rocket fuel and accidentally discovered in tuberculosis wards (López-Muñoz/Alamo 2009).

But *Anti-Oedipus* did not include much in terms of cybernetics. When clarifying the operations of capitalism as an axiomatic, Deleuze and Guattari noted that it is "by no means a simple technical machine, not even an automatic or cybernetic machine" (1977: 251). There are passing engagements with related concepts, such as Bateson's double-bind, which is indebted to information theory (1977: 79-80, 359-60). Deleuze and Guattari brought up information theory in another context, too, first through reference to Jacques Monod's "microscopic cybernetics," and then in the micro-biology of schizophrenia (related to their occasional mentions of Markov chains) largely indebted to Shannon and Weaver's theory famous for its splitting of form from content through medium and message (1977: 289-91, 39, 343). But even in those moments, Deleuze and Guattari rarely appeal to cybernetics because of its systematicity, and instead cash out concepts through a line of flight – in that case, following the paths of authors D.H. Lawrence, Henry Miller, and Georg Büchner (1977: 292). The greatest impact of cybernetics on *Anti-Oedipus* might have been in their diagrammatic mapping of societies in its third

chapter, perhaps forming a "cybernetic apparatus" more due to its reliance on Claude Lévi-Strauss' structural anthropology than on any specific concepts (Geoghegan 2011). But as is typical of Deleuze's remarks on Foucault, such a choice was not meant to establish a definitive archive or even diagram, except in the most "contingent, singular, ironic, and critical" sense (Deleuze/Guattari 1977: 140).

A Thousand Plateaus, by contrast, was permeated by cybernetic models (Deleuze/Guattari 1987). In *Anti-Oedipus*, they left the "machine" underdefined. But already in the first few pages of the rhizome chapter in *A Thousand Plateaus*, Deleuze and Guattari gave a general method that echoes W. Ross Ashby's cybernetic theory of machines.

> Deleuze and Guattari: "We will never ask what a book means;" "We will ask what it functions with, in connection with what other things it does" (1987: 4).
>
> Ashby: "it treats, not things but *ways of behaving*" and "does not ask 'what *is* this thing?' but '*what does it do*?'" (1957: 1)

In the next plateau, their 'goodbye' to psychoanalysis, Deleuze and Guattari heckled Freud with scientific names and terms like "Konrad Lorenz," "Brownian motion," and "metastable state," jeering that "psychoanalysis has nothing to say" about Freud's case study of the Wolf-Man (1987: 34, 30, 35). From there, concepts bearing the signature of cybernetics only proliferate. To just name a few: they outlined semiotics as "machinic assemblages" that would appear familiar to Ashby (1987: 144-47), reimagined Spinozist bodies as assembled collections of charged intensities and speeds in a way not unlike an electrical communication circuit that encodes and decodes (1987: 253-72), and reconceived technology as evolving along a machinic phylum under the influence of the cybernetically-infused theories of Gilbert Simondon (1987: 405-11).

But *A Thousand Plateaus* did not incorporate ideas without giving them a twist.[6] An important starting place is Deleuze and Guattari's own statement of method: the book drew lines in which "politics precedes being" (1987: 202-04). Which is to say that the ultimate significance of its ideas is not to be found in the accuracy of its representation but in its capacity to create a new reality. The book did this by drawing lines, making its main antagonist the State and its way of thinking, Royal Science. Set against it was a protagonist, nomads, who construct a war machine "of a different origin" and "a different assemblage" in an effort to make themselves incompatible with the State (1987: 23). Perhaps, then, Deleuze and Guattari's use of cybernetics can be understood as the self-description of an enemy. For instance, the two nomadology plateaus were structured *more geometrico*, defining the State through a series of axioms and propositions that it effectuates.[7] Outlining the consequence of capitalism as a worldwide axiomatic of digital

[6] On Deleuze's "heretical" use of cybernetics, see Rosales 2015.
[7] For additional clarification, see Deleuze/Guattari 1987: 223.

flows, they repeated Wiener's three-stage history of the machine – except that their account was underwritten by Lewis Mumford's paranoid critique of large megamachines, in which humans have become like cogs, limited to performing technical functions subservient to the abstract commands of a general system:

> The axiomatic itself, of which the States are models of relations, restores or reinvents, in new and now technical forms, an entire system of machinic enslavement. This in no way represents a return to the imperial machine since we are now in the immanence of an axiomatic, and not under the transcendence of a formal Unity. But it is the reinvention of a machine of which human beings are constituent parts, instead of subjected workers or users. If motorized machines constituted the second age of the technical machine, cybernetic and informational machines form a third age that reconstructs a generalized regime of subjection: recurrent and reversible "humans-machines systems" replace the old nonrecurrent and nonreversible relations of subjection between the two elements; the relation between human and machine is based on internal, mutual communication, and no longer on usage or action (Deleuze/Guattari 1987: 456-58).

This explains Deleuze and Guattari's measured tone throughout *A Thousand Plateaus*, where at every turn they sought to anticipate the ways in which the State and Royal Science might recuperate the very concepts, and offered means to ward off such cooptation – culminating in the cautionary note to "never believe that a smooth space will suffice to save us" (1987: 500).

In *What Is Philosophy?*, Deleuze and Guattari separated out philosophy, science, and art, a marked shift from the delirious mixture found in their two previous collaborations. An idea from the third wave of cybernetics – the spontaneous generation of order out of chaos – served as the overarching model for the book. The concept's centrality earned it a spot as the opening line to the book's summative conclusion: "we require just a little order to protect us from chaos" (Deleuze/Guattari 1996: 201). Beginning from the equation chaos = cosmos, they said that philosophy, science, and art all "tear open the filament and plunge into chaos," each in a different but complementary way (1996: 202). Each offers a "survey" of the infinite universe through their differing temporalities, philosophy the superimposition of an absolute survey at infinite speed, science a stratigraphic slowing down to the serial like a freeze-frame, and art an eternal monumentalization of sensation memorialized in space and time.

Expectedly, the 'order out of chaos' work of Ilya Prigogine and Isabelle Stengers play an important role in the chapter on science about functives, the latter becoming one of the most prominent Deleuzian philosophers of science. Prigogine and Stengers' work on dissipative structures were awarded the first footnote in the science chapter, and their work appeared again to back up the validity for establishing scientific determination (Deleuze/Guattari 1996: 118, 126). But while chaos may give rise, spontaneously, to ordered life (whether inorganic, organic, or allomorphic), science, art, and philosophy

each bring forth a different form of organization. All three include states of affairs, things, and bodies. But science organizes them in a specific way:

> States of affairs are ordered mixtures, of very different types, which may even only concern trajectories. But things are interactions, and bodies are communications. States of affairs refer to geometrical coordinates of supposedly closed systems, things refer to energetic coordinates of coupled system, and bodies refer to the informational coordinates of separated, unconnected systems (1996: 123).

For Deleuze and Guattari, what science does is construct a plane of reference that makes it possible to actualize the virtual (1996: 122). It does this by "passing" a chaotic virtuality to a state of affairs and bodies that actualize it, making its operations communicative in the sense that "the most elementary organism forms a proto-opinion on water, carbon, and salts on which its conditions and powers depend" (1996: 155-56). What science, then, offers, is its own affects of "energetic relation" and perspectives as "quantities of communication" (1996: 131-32).[8] No doubt, Norbert Wiener would find much in common with this definition, given his own promotion of cybernetics as communications and control in human, animal, and machine.

There is a strange conflict over communication in *What Is Philosophy?* that expressed a deep ambivalence to cybernetics lingering beneath the text. On the one hand, Deleuze and Guattari defined the operation of science as communication – mixtures that pass through interaction to become communication (1996: 153-54). And science is said to join with art and philosophy in the brain (itself taken to be "an organ of communication") (1996: 208-09). But in the chapters on philosophy, they addressed communication with derision. They declared it "superfluous," "inspired by *ressentiment*," one of the ruinous trio of outmoded ways of doing philosophy (the object of contemplation, the subject of reflection, and the other of communication), a reduction of philosophy "to an interminable discussion," a source of "false problems" from which illusions emanate, a depreciation of philosophy's creative drive, where "the cynical perceptions of the capitalist himself" can be found, and ultimately, something that the utopian anti-capitalist movement of philosophy makes vanish (1996: 28, 29, 51,79, 91-92, 146, 99-100). Climactically, they proclaimed "we do not lack communication. On the contrary, we have too much of it. We lack creation. *We lack resistance to the present*. The creation of concepts in itself calls for a future form, for a new earth and people that do not yet exist" (1996: 108).

Perhaps the only way to resolve the conflict over communication arrived in the book's concluding paragraph. Philosophy, science, and art are each "in [their] own way, in relation with a negative" (Deleuze/Guattari 1996: 218). Three nos. A nonphilosophy, a

[8] For another elaboration on this approach through Gaston Bachelard and Deleuze's engagement with structuralism, see Manglier 2019.

nonart, and a nonscience. The nos are neither a beginning nor an end, through which they would disappear. But a doubling, a threshold of indiscernibility in which each confront themselves and come out the other side transformed. In other words: a fold.[9]

Control Societies, Again

In an interview with Antonio Negri published around the same time as *What Is Philosophy?* and the "Postscript," Deleuze was asked about the utopian potential of "a communication society" (Deleuze 1995: 174). He immediately responded by explaining his concept of control societies. Replacing the logic of confinement was "continuous control and instant communication" (1995: 174). Its operations corresponding not with the mechanical machines of sovereignty nor the thermo-dynamics of disciplinary societies, but cybernetic machines and computers. He did not mince words, stating soberly that "the question for 'universals of communication' ought to make us shudder" (1995: 175). The only way forward that he could imagine was creating "vacuoles of noncommunication, circuit breakers, so we can elude control" (1995: 175).

Superficially, the "Postscript" was not metaphysical enough to provide a new fully-formed image of thought for shaking Deleuze out of his cybernetic slumber. It is brief, speculative, and only gestural. But that is because he faced control not as Wiener or Ashby did, but as a philosopher – which, by his account, meant always being on the side of the oppressed (Deleuze/Guattari 1996: 109). For the history of discipline and control, he turned not to reformers but the mad heroine of Rossellini's *Europa 51*, William S. Burroughs' paranoid ravings, and Virilio's screed against speed (Deleuze 1992: 3-4). In fact, Deleuze conspicuously attributes the term "control" not to any cyberneticians but to Burroughs, whose essay "The Limits of Control" expresses a conspiratorial concern over mind-control, post-hypnotic suggestion, psychosurgery, and electrodes embedded in the brain – curiously compounded by the author's grandfather founding an adding machine company that went to be one of the largest global producers of mainframe computers (Burroughs 1978: 38; Deleuze 1992: 4). Moreover, Deleuze equated living under control with the plight of Josef K. from Franz Kafka's *The Trial* and threw his lot in with those living in shanty towns and ghettos (1992: 5, 7). Together, the three parts of the "Postscript" (history, logic, and program) may provide the guide to finding the new Deleuze. But not by extending its history, logic, or program, but by saying "no" to all three. "No" to the history of control found in his own thought, "no" to the logic as it appeared in his work, and "no" to any cybernetics program.

[9] Instructive here is chapter five of Alexander R Galloway's *Laruelle: Against the Digital*, in which he discusses the "Postscript" in the context of François Laruelle's non-philosophy. See Galloway 2014.

Only then would Deleuze's double finally appear. Perhaps as a result of a thinker paralyzed by his own inability to distinguish between the lines drawn by himself and Norbert Wiener, lines cutting through the work of Bergson and Leibniz, the concepts of order and chaos, and a concern for humanity with the arrival of a new generation of machines. But also immobilized by the numerous projects that simply try to cybernetically extend his thought (often going under the name of "chaos," "complexity," "assemblage theory," and "accelerationism"). Deleuze never criticized them, but then again, he was too disgusted with neurosis to engage in self-criticism (Deleuze 2007: 42). To take another step, then, to once again catch a line of flight – perhaps we should read the "Postscript" not just as adding one more dimension to Foucault's diagram, but as Deleuze's attempt to once again be a "pure metaphysician," not just of the outside but outside of himself (2007: 42).[10]

Works Cited

Althusser, Louis (1996). *For Marx*. Trans. Ben Brewster. London and New York: Verso.

Ashby, W Ross (1957). *An Introduction to Cybernetics*. London: Chapman & Hall.

Beniger, James R. (1986). *The Control Revolution: Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press.

Bernes, Jasper (2017). *The Work of Art in the Age of Deindustrialization*. Stanford: Stanford University Press.

Burroughs, William S. (1978). "The Limits of Control." Ed. Sylvère Lotringer. *Schizo-Culture* 3.2: 38-42.

Culp, Andrew (forthcoming). "Control after Cybernetics: Governmentality as Navigation by Homeostasis and Chaos." *symplokē* 28.

Deleuze, Gilles (1988). *Foucault*. Trans. Seán Hand. Minneapolis: University of Minnesota Press.

— (1992). "Postscript on the Societies of Control." *October* 59: 3-7.

— (1995). "Control and Becoming." *Negotiations, 1972–1990*. New York: Columbia University Press, 169-76.

— (1997). "Desire and Pleasure." Translated by Melissa McMahon. *GLOBE E* 8, (n. pag.).

— (2007). "Response to a Series of Questions." *Collapse* III: 39-43.

Deleuze, Gilles and Félix Guattari (1977). *Anti-Oedipus: Capitalism and Schizophrenia*. Trans. Robert Hurley, Mark Seem, and Helen R. Lane. Minneapolis: University of Minnesota.

— (1987). *A Thousand Plateaus: Capitalism and Schizophrenia.* Translated by Brian Massumi. Minneapolis: University of Minnesota Press.

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— (1996). *What Is Philosophy?* Trans. Hugh Tomlinson and Graham Burchell. New York: Columbia University Press.

Foucault, Michel (1970). *The Order of Things: An Archaeology of the Human Sciences*. New York: Pantheon Books.

— (1976). *The Archaeology of Knowledge and The Discourse on Language*. New York, Hagerstown, San Francisco, London: Harper & Row.

— (1990). *The History of Sexuality: An Introduction*. New York: Vintage.

— (1997). *Ethics: Subjectivity and Truth*. Ed. Paul Rabinow. Trans. Robert Hurley. New York: The New Press.

Galloway, Alexander R. (2014). *Laruelle: Against the Digital*. Minneapolis: University of Minnesota Press.

Geoghegan, Bernard Dionysius (2011). "From Information Theory to French Theory: Jakobson, Lévi-Strauss, and the Cybernetic Apparatus." *Critical Inquiry* 38.1: 96-126.

Groupe d'information sur les prisons (2013). *Intolérable*. Ed. Philippe Artières. Paris: Gallimard.

Halpern, Orit (2014). *Beautiful Data: A History of Vision and Reason Since 1945*. Durham, NC: Duke University Press.

Hayles, N. Katherine (1999). *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago and London: University of Chicago Press.

Heidegger, Martin (1981). "'Only a God Can Save Us': The *Spiegel* Interview." *Heidegger: The Man and the Thinker*. New Brunswick and London: Transaction Publishers, 45-67.

— (2002). "The End of Philosophy and the Task of Thinking." On Being and Time. Chicago: University of Chicago Press, 55-73.

Kline, Ronald R. (2015). *The Cybernetics Moment: Or Why We Call Our Age the Information Age*. Baltimore: Johns Hopkins University Press.

Lemke, Thomas (2012). *Foucault, Governmentality, Critique*. London and New York: Routledge.

López-Muñoz, Francisco and Cecilio Alamo (2009). "Monoaminergic Neurotransmission: The History of the Discovery of Antidepressants from 1950s until Today." *Current Pharmaceutical Design* 15: 1563-86.

Maniglier, Patrice (2019). "Problem and Structure: Bachelard, Deleuze, and Transdisciplinarity." *Theory, Culture & Society* (advance online publication)*:* 1-21.

Nealon, Jeffrey T. (2007). *Foucault Beyond Foucault: Power and Its Intensifications since 1984*. Palo Alto: Stanford University Press.

Negroponte, Nicholas (1995). "Being Digital – A Book (P)Review." *Wired* 1 Feb.: <https://web.media.mit.edu/~nicholas/Wired/WIRED3-02.html>. [accessed 10 Mar. 2020]

Pias, Claus (2016). *Cybernetics: The Macy Conferences 1946-1953. The Complete Transactions*. Zurich: Diaphanes.

Protevi, John (n.d.). "Foucault Social Power Chart." *Protevi.com*. <http://www.protevi.com/john/Foucault/powerchart.pdf>. [accessed 10 Mar. 2020]

Rosales, Jose (2015). "A Baroque Heresy: Notes on Deleuze and Leibniz on the Concept." *The Tragic Community* (blog). <https://thetragiccommunity.wordpress.com/2015/12/06/a-baroque-heresy-notes-on-deleuze-and-leibniz-on-the-concept>. [accessed 10 Mar. 2020]

Rose, Nikolas (1999). *Powers of Freedom: Reframing Political Thought*. Cambridge, UK: Oxford University Press.

Turner, Fred (2006). *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network and the Rise of Digital Utopianism*. Chicago and London: University of Chicago Press.

Wiener, Norbert (1963). *Cybernetics: Or, Control and Communication in the Animal and the Machine*. Second Ed. Cambridge, MA: MIT Press.