

COGNITION, DOMINATION AND COMPLEXITY:

A Speculative Outline of Intersections Between Cognitive Activity and Structures of Control, and Their Relation to Dynamics of Complexity and Simplicity

RYAN CARDOZA

*“Organization is suppression.”*¹

*“Life is founded upon the premise of a belief in enduring and regularly recurring things; the more powerful life is, the wider must be the knowable world to which we, as it were, attribute being.”*²

*“Morality of truthfulness in the herd. ‘You shall be knowable, express your inner nature by clear and constant signs—otherwise you are dangerous: and if you are evil, your ability to dissimulate is the worst thing for the herd. We despise the secret and unrecognizable.’”*³

1 Land, Nick, interview by James Flint. *Organization is Suppression* (February 1997)

2 Nietzsche, Friedrich. “Will to Power.” In *Will to Power*, by Friedrich Nietzsche, 298. New York: Random House Inc., 1968.

3 Nietzsche, Friedrich. “Will to Power.” In *Will to Power*, by Friedrich Nietzsche, 158. New York: Random House Inc., 1968.

1) Introduction

Cognition and control are like two intertwined vectors of domination. To *identify* something is to bring it into one's own order, so that it may *become knowable*—so that it may be *suppressed* into boundaries which facilitate a clear and unified apprehension of it. To implement a law of nature is to organize phenomena into something apprehensible; to conceptualize something is to integrate it into parameters of explication, and, thus, into the order of the knowable. *The Human*, which is unaware of its fate as being *doomed to want to know*—being doomed to *need to make knowable*—gives names and systems to nature so that it might bring phenomena into its order of identification, thereby dominating them. A system of sovereignty is no different; an Empire that expands inevitably makes territories and peoples *known* to it; the State makes its territory knowable by *imposing categories of representation* onto geographical spaces, making its citizenry knowable by bringing it into its order of domination—into its realm of *identification*, so that it might *know it*. Functions of control and functions of cognition intersect in the sense that both employ *techniques of domination*, identification being but one of these techniques, albeit a very important one. The eyeball, which observes physical phenomena, and the eye of a surveillance camera, are both products of the same drive—they express the command “*make knowable!*”

Conquest is a word that commonly describes the trajectory of Empires or States, but the order of knowledge, too, has a conquest: a trajectory of cognitive-intellectual imperialism. If it is observable to us, then it is not immune from systematization and integration into something cognizable. Not even the stars are out of reach from the cold hands of knowledge, which bring them into the realm of identification, and which systematize their organizations, giving them names, and applying laws to their behavior.

The story of control on earth is one whose trajectory is guided by *concepts*, which have a *relative autonomy* in the sense that the power of the concept is the power of the particular control system that incarnates it and that is guided by it. Internal to every regime of domination is a cohesive conceptual structure that determines the way it operates and functions. A critical reconfiguration of a concept necessitates a substantial reconfiguration of the control structure that envelops it.

I start with the following points, which will be expounded upon in what follows:

- 1) Cognition and control converge at the point of *the integration of materials into organized aggregates, the partitioning of matter into distinct categories of representation, and the selection out of what is not capable of being schematized.*

2) Higher-level operations of unification and integration—whether operations of a regime or operations of mind—are conditioned by the possibility of very high degrees of stratification at the level of structural organization.

3) Stratification is not only a condition, but is also a shared tendency between cognition and control; the double-helix of control and cognition are connected by a bridge of stratification. Functions at the level of the mind and mechanisms at the level of political control *integrate, systematize,* and *identify* (which necessarily implies a form of stratification).

4) Structures of political control have as their internal mechanisms *relatively autonomous concepts*. Relative autonomy is established in contradistinction to absolute autonomy, in the sense that concepts are not unconditioned Platonic Ideas, but are rather *relatively autonomous*, since the concept guides the functioning of the regime, and the totality of the conceptual structure functions independently of any individual subject thinking or apprehending it.

5) Concepts and materiality interact with one another through relations of feedback and interpenetration.

2) Stratification

In this paper, I will be using the definition of stratification provided by Gilles Deleuze and Félix Guattari, wherein *Stratification* “consist[s] of giving form to matters, of imprisoning intensities or locking singularities into systems of resonance and redundancy, of producing upon the body of the earth molecules large and small and organizing them into molar aggregates. Strata are acts of capture; they are like ‘black holes’ or occlusions striving to seize whatever comes within their reach.”⁴ Stratification (when considered at the level of materiality) is the *suppression* and *imprisonment* of primary intensive matter. Stratification at this level is the process whereby the indeterminacy and disparate potentialities of intensive material flux are suppressed into more rigidified and complex forms of determinate organization. When one refers to something that is stratified, he speaks about something that can also be said to have some degree of sophistication, which necessarily implies order. Stratification will be a useful concept, because we can use it to talk about the convergence of certain tendencies two different levels of matter without equivocating between levels. The two levels at which stratification occur are 1) the level of human cognition/cognitive activity in general, and 2) the level of materiality. While stratification extends to both levels, the precise nature of stratification implemented at one level is not reducible to

4 Guattari, Gilles Deleuze and Felix. "A Thousand Plateaus; Capitalism and Schizophrenia ." In *A Thousand Plateaus; Capitalism and Schizophrenia*, by Gilles Deleuze and Felix Guattari, 40. Minneapolis : University of Minnesota Press, 1987.

the nature of stratification at the other level; there is no equivocation between levels, only an “isomorphism without correspondence”⁵ between the two.

3) Scientific Conceptualization; Physics

In his *Will to Power*, Friedrich Nietzsche writes that “*Thinking* in primitive conditions (pre-organic) is the crystallization of forms, as in the case of a crystal.—In *our* thought, the essential feature is fitting new material into old schemas (=Procrustes’ bed), *making* equal what is new.”⁶ According to Nietzsche, when we refer to human thought, we undertake a *process of integration and equalization*. If we look at certain disciplines of human knowledge, we can see this tendency of “*making* equal what is new”⁷ in a very potent and effective register. Physics is a practice that often proceeds by integrating different lines of information (different causal chains) into simple and unified schemata that explain these phenomena.⁸ In the case of Isaac Newton, the law of universal gravitational attraction is such a schema in the sense that it is meant to explain highly diverse phenomena. Yet, the law itself is a mathematical simplicity of sorts—the inverse square law.⁹ The simplicity of the law integrates the phenomena it is meant to explain into a *unified system of understanding*. The parameters of a scientific law are *imposed* onto phenomena in order to facilitate a conceptual understanding that can be further built upon, and the application of a law forms a schema through which the particular phenomenon in question is translated and codified, in the hope that the schema itself can also continue to be engaged with as science develops. Phenomena hitherto not understood by us become *dominated*; occurrences in nature are colonized and partitioned into territories that now belong to the sovereignty of knowledge.

What’s interesting, however, about this integration of phenomena into unified understandings is that, in observing the materials upon which these laws are imposed on—such as the relations of the planets in orbit—there is nothing that suggests an essential simplicity that is absolutely independent of human cognition or perception. Moreover, why is it that humans come to understand relatively diverse phenomena as implicitly capable of being integrated into a unified scientific or mathematical schema? We agree with Nietzsche that the reason for this has to do with processes of integration and equalization as tendencies of cognitive functioning. The desire for more knowledge is the desire to integrate what is new into a schema that is further utilizable, and which can continue to be built upon. It is simply taken as a given that physical phenomena can be subjected to this process.

5 *A Thousand Plateaus; Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1987.

6 Nietzsche, Friedrich. “Will to Power.” In *Will to Power*, by Friedrich Nietzsche, 273. New York : Random House Inc., 1968.

7 Ibid.

8 For more on the relation between scientific laws and different causal chains,; see Stewart, Jack Cohen and Ian.

“Collapse of Chaos; Discovering Simplicity in a Complex World .” In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 13-14. New York: Penguin Books, 1994.

9 Ibid.

4) Identification

a) Partitioning

At a level that is further removed from specificity of scientific conceptualization, there is the act of *identification* in general. To speak of identification is to speak of a connection between points; the connection between the agent who identifies and the matter that comes to be identified as a *thing*. Identification is the mechanism that bestows *thinghood* onto matter. Identification is also an example of stratification at the level of human cognition; to the extent that identification *integrates* in the same way that processes of stratification integrate indeterminate matter into a determinate form. Identification is an action that *selects out*; the bestowing of thinghood onto matter implies the partitioning and selection out of any difference that would disrupt the simple continuities involved in the apprehension of a thing as a particular thing. That which is *different*—or that primary intensive materiality which would overturn thinghood as a category coextensive with representation – is *partitioned outside* of the territory of identification. Any particular instance of identification effectuates a partition at two different levels: 1) At the level of *things*; in the sense that to identify a thing or an aggregate of things is to select out *other things*, which are not part of that particular occurrence of identification, and, 2) at the level of *primary intensive materiality*; in the sense that what is primary at a material level is *made* to be something of the Outside. To be more precise, it is made to be of a transcendental delimitation that relegates it to a territory that cannot be seen or spoken of—primary materiality is encased within the parameters of a distinction whereby it becomes delimited to an “in-itself” on the side of a transcendental barrier that is across from thinghood. To impose this type of inside/outside distinction is precisely to enact a partition onto matter.

According to Immanuel Kant, ‘Pure Reason’ is a faculty that makes a similar partition. (This, indeed, is dependent on the extent to which we take Kant to be saying that the phenomena/noumena distinction itself is an ‘Idea of Pure Reason’.)¹⁰ The phenomena/noumena dichotomy is not a concept given through the categories of the Understanding; rather, it indexes a point at which Reason encounters a critical limit and produces this distinction in its striving to grasp an Idea of which there cannot be knowledge. The Idea in question is *a world independent of our experience of it*. In trying to conceive of this Idea, thought becomes determined under such significant constraints that try to explicate the problem, which descends into deep conceptual rabbit holes. If it is true that we cannot know the things in themselves, then how can one speak in terms of a *world* completely independent of our experience, when to speak of a *world* is to speak within the parameters of our mechanisms of representation? And, as Arthur Schopenhauer (perhaps gratuitously)

¹⁰ For a more comprehensive and rigorous account of this partition and its implications, see Kant, Immanuel. *Critique of Pure Reason*. New York: Cambridge University Press, 1998.

pointed out, how can one speak of things-in-themselves when to speak of *things* is to imply multiple objects (the conditions for which are the inner intuitions of space and time)?¹¹ A world independent of our experience would not contain *multiple things* that we cannot know—it would simply be unknowable altogether. But to follow this line of questioning is to miss the point completely. To speak about the problem strictly in terms of “we can/cannot know the things in themselves,” and to point out contradictions in the words being used to articulate it (like in Schopenhauer’s case) wades into the pitfalls engendered by ‘Dialectical Reason.’¹² (I. Kant, *Transcendental Dialectic*, First Book, On the concepts of pure reason 1998) (I. Kant, *Second Book of the Transcendental Dialectic*, First Chapter, The paralogisms of pure reason 1998) One could consider Schopenhauer’s criticism: “how can you say *thing* in itself when even thinghood is something conditioned by out interaction with the world?” But this contradiction bespeaks the nature of the problem. It is precisely due to the nature of the possible pitfalls produced by this problem that Kant knows to say very little about things-in-themselves or a world independent of our experience—he simply says that you may *think* it, but that you cannot *cognize* it. In this paper, I do not aim to take an extreme position on one side of the very famous and inflated philosophical divide that this problem precipitates. In fact, if Kant were indeed correct, and if he were indeed saying what we take him to be saying, many of the philosophers who have fiercely articulated opposing positions of this divide have merely been bickering from two dyads of an antinomy of Pure Reason. Instead, I am of the opinion that this Idea of Pure Reason is a compelling example of *partitioning* at a transcendental level, which appears to be of something that has an extremely significant purchase on tendencies of thought. We do not take the fact that this inside/outside distinction is an Idea of Pure Reason to mean that we cannot talk about processes that implicate such a partition; rather, we understand it to be a powerful example of this tendency that lends itself to the point that we are trying to make about the significance of partitioning as a feature of cognition.

b) Unification/Complexity

A thing is a type of simple unity that can be further integrated into other unified schemata of representation. If I am to identify an object that is in front of me, I can apprehend that object as a simplicity to the extent that it is totalizable in thought. I can integrate this object into a whole of compared and connected representations – a *cognition*, in the Kantian sense of the word.¹³ Not only does identification facilitate

11 Schopenhauer, Arthur. *The World as Will and Representation*. New York: Dover Publishing, 1969.

12 See Kant, Immanuel. *Critique of Pure Reason*. New York: Cambridge University Press, 1998., specifically the sections; “Transcendental Dialectic, First Book, On the concepts of pure reason.” In *Critique of Pure Reason*, by Immanuel Kant, 394-95. New York: Cambridge University Press, 1998., “Second Book of the Transcendental Dialectic, First Chapter, The paralogisms of pure reason.” In *Critique of Pure Reason*, by Immanuel Kant, 438-39. New York: Cambridge University Press, 1998., and the section “Transcendental Dialectic.” In *Critique of Pure Reason*, by Immanuel Kant. in general, wherein illusion and fallacious inference of unrestricted pure reason is termed “dialectical.”

13 Ibid.

more sophisticated operations of connecting and comparing representations, but the act of identification itself implicates the apprehension of simplicity to the extent that a *thing* is a unified simplicity. Even if I can analyze and break down a thing into many different parts (or even different *things*), I will never stray outside the category of thinghood, and I cannot venture into the wilderness which identification partitions out without losing all semblance of thinghood and representation. Underneath, however, the operations of simplicity lies a dense complexity that bears no resemblance to the identity of thinghood. Contemporaneous with the apprehension of a simple identity such as thinghood are highly complex processes and firings at the molecular level of the brain. Additionally, the brain itself is a highly complex structure with more densely layered intricacies in functioning than the most robust computer (currently, at least), and the brain is nested within the larger—but still highly complex—structure of the human body, which is far from short of coexisting and comingling systems of organization. The dense material complexity of the body is an example of a *highly stratified structure*, which functions as the productive conditioning for “higher-level” operations (in this case, operations of identification, cognition, representation) without resembling them.

5) Conceptual Regimes; Societies of Control

In a short essay entitled *Postscript on the Societies of Control*,¹⁴ Deleuze identifies two distinct conceptual structures that accord with two distinct regimes of domination. At the time of writing the essay, according to Deleuze, society was standing on a precipice that faces an auspicious horizon: the arrival of a new regime—*control societies*. The regime that Michele Foucault called the “disciplinary society” is progressively being phased out in favor of a regime with an essentially different conceptual structure.¹⁵ Deleuze compares the structures of the two regimes and indexes distinctions that concern a difference of concepts. Each of the two societies incarnates a distinct conceptual structure, and domination is effectuated in accordance to the structure of each particular concept. I believe that Deleuze’s analysis and theoretical approach lend themselves to a concrete example of what we have been referring to as “conceptual regimes,” or regimes that are guided by concepts. The two concepts in question are not only a way to describe either regime, but they are also something that is *said of each regime* in a significant sense. Below, we will briefly outline some of the structural differences that Deleuze indexes in each regime. His allusion to the increasing level of complexity in the new regime also gives us another example of the dynamic between high degrees of stratification and simplicity. The distinctions between the two regimes discussed in the essay will be referenced in terms of *identification, territory, and complexity*.

¹⁴ Deleuze, Gilles. “Postscript on the Societies of Control.” *October*, 1992: 3-7.

¹⁵ *Ibid.* “... a disciplinary society was what we already no longer were, what we had ceased to be. We are in a generalized crisis in relation to all the environments of enclosure – prison, hospital, factory, school, family.”

Identification: The precise manner in which each regime brings a citizenry into its order of *identification* presents two distinct cases. Under the mechanisms of disciplinary societies, citizens are placed on one side of an individual/group partition, and are defined and identified by the regime in accordance with these limitations. The individual is determined in contradistinction to the group. But the workings of control societies facilitate an identification that is more abstract: “We no longer find ourselves dealing with the mass/individual pair. Individuals have become “dividuals,” and masses, samples, data, markets or ‘banks.’”¹⁶ The aforementioned individual/group partition no longer has a place in the primary conceptual mechanisms of control societies—operations of quantitative abstraction act on the populace such that they primarily become identified as abstract mathematical aggregates.

Territory: The spaces of disciplinary societies are *analogically* connected enclosures or *molds*. Each enclosure is an independent variable that starts from zero. The individual is at school, *now* at work, *now* with the family; one “never stops starting” from zero.¹⁷ Disciplinary societies consist in spaces in which the individual always starts from a blank slate in learning a new discipline (work, schooling, family). In contrast with this, societies of control are characterized by the *continuous modulation* of metastable states; one is always undergoing more training, preparation or schooling.¹⁸ The closures of disciplinary societies dissipate, opening wide onto a complicated, seemingly un-partitioned space of flux, continuity, and relationality that give themselves to power; there is no longer a political space because everything is now political; there is no space in which privacy exists to the extent that mechanisms of surveillance only become more and more sophisticated. The ‘public sphere’ is no longer a distinct, purely physical space, but rather becomes inverted and enmeshed with certain pockets of cyberspace.

Complexity/Stratification and Identity: The arrival of control societies at the impending end of the twentieth century bespeaks an omen which envisions a labyrinthine entanglement of connected serpent tails and cryptic vapors which conceal molecules of venom. The change from *disciplinary societies* to *control societies* indexes a distinct *increase in complexity*.¹⁹ (“The coils of a serpent are even more complex than the burrows of a molehill.”) The (conceptual) structure of the *control* regime is far more complex than the structure of the *disciplinary* regime it supersedes. This is also to say that control societies are more *rigorously stratified* than disciplinary societies. And it is none other than this dense level of stratification in terms of complex structural organization that facilitates the emergence of *unified simplicities*. *A degree of stratification which is adequate to an idea of rigorous complexity is the condition for the possibility of emergent simplicities*. In the particular case of a conceptual regime,

16 Ibid.

17 Ibid.

18 Ibid.

19 “The coils of a serpent are even more complex than the burrows of a molehill.” Ibid.

high complexity facilitates unifications and simplicities at the surface level of its functioning and instantiation. For, in fact, a corporation or a data is nothing more than one of these mysterious, “emergent” simplicities?²⁰ And to the extent that it becomes a function of political tactics that are currently deployed within control societies, is *identity* not one of these simplicities? The current tactical use of identity in American political spaces is extremely ubiquitous, from racial identitarianism on the right, to identity as a compartmentalizing mechanism for groups which are purported to require activist assistance on the left. Meanwhile, many people who claim they would like to move away from “identity politics” have no problem appealing to the abstract identity of the country, the equalizing power of which is apparently sufficient in subsuming any and all adversarial relations between groups. Identity has become widespread as a political tool because the current parameters of domination under which we are determined facilitate the intensified instantiation of this vaporous simplicity. Obviously, identity is an illusion that has long had a formal reality contemporaneous with the abstract and material processes of the brain. It just so happens that the complexity of the current regime determines its effectiveness as a political tool. This is not something that was present when Deleuze was analyzing the characteristics of control societies. Perhaps even this highly complex regime has reached its critical point of saturation.

6) Complexity - The Body

Another complex structure, which facilitates the ‘functioning of unities’ like identity, is the Human. Humans are *highly stratified* organisms. It is this high degree of stratification at the material level—in this case, at the level of the body—that facilitates the capacity to *identify* and *stratify* at the level of cognition. In general, highly stratified systems have the capacity to *produce sophisticated schemata of unified and simple understandings*. The high level of material stratification in the body as a whole also facilitates abstract functions like identity, concepts, and conceptualization. The human body is a highly complex machine, even within just the eye/brain connection alone. In a procedure that requires a high amount of processing power, the brain creates the illusory experience of looking “through” one’s eyes. In reality, however, the retina—which is at the back of the eye—stops all light, and what appears as a *continuity* of colors and shade are in fact “pictures” or “frames” that are *discretely* captured and transmitted as electrical impulses by the retina’s nerve cells (and then sent to the brain).²¹ In the 1960s, David Hubel and Torsten Wiesel proved that about half of the nerves that connect the eye to the brain are not simply passive receptors of light input, and that some fibers in the optic nerve actually convey highly complex

20 Deleuze, Gilles. "Postscript on the Societies of Control." October, 1992: 3-7. "... but in a society of control, the corporation has replaced the factory, and the corporation is a spirit, a gas."

21 Stewart, Jack Cohen and Ian. "Collapse of Chaos; Discovering Simplicity in a Complex World." In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 155. New York: Penguin Books, 1994.

messages to the brain in the form of electrical impulses.²² We see in three dimensional dimensions, even though our eyes only receive input from two. This is because both halves of the optic tectum (also known as the *Superior colliculus* in the literature, a structure common to the mammalian midbrain, which contains the neuronal visual pathways of both eyes) receive information from each eye—the right side of each retina sends its information to the left side of the tectum, and vice versa.²³ The ear is another very complex organic device; the extremely small hair cells (of which humans have 15,000) on the basilar membrane are tuned to specific frequencies so that particular pitches are sensed at different positions along the cochlea.²⁴ The cochlea is a “tuned receptor” that converts *frequencies* from vibrations of the eardrum to corresponding *positions* of vibration in the basilar membrane.²⁵ The brain itself is an organ that also has a deeply intricate “structure.” The cerebrum consists of two cerebral hemispheres, and each hemisphere is connected to the other by thick bands of nerve fibers, with one larger fiber known as the *corpus callosum*.²⁶ Each hemisphere has approximately three layers; the first and outer layer (i.e. the cerebral cortex), the second and central layer, which is made up of white matter, and the third and deepest layer (also known as the *basila ganglia*), which is made up of gray matter.²⁷ If we look deeper into the brain, we find other structures such as the *thalamus* or the *hypothalamus*. Each sub-structure of the brain has its own intricate internal organization, and different sections of the brain correspond to different aspects of cognitive function.²⁸ The body is certainly replete with order and organization, and to this extent, qualifies as a very stratified aggregate of matter.

7) Concepts and Materiality

Concepts are not precluded from interacting with materiality by virtue of their abstract level/function. This notion presupposes a framing of the distinction between the abstract and the concrete, which is unsustainable to the extent that it implies a relation of strict separation between the two. In reality, the abstract and the concrete are enmeshed within each other, and thinking is both a locus of convergence and an interpenetration between the two levels. I do not wish to imply that the abstract and that the concrete are not distinct or different from one another. Rather, we are calling into question the precise nature of their separation. They can be thought of

22 Stewart, Jack Cohen and Ian. "Collapse of Chaos; Discovering Simplicity in a Complex World." In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 156. New York: Penguin Books, 1994.

23 Ibid.

24 Stewart, Jack Cohen and Ian. "Collapse of Chaos; Discovering Simplicity in a Complex World." In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 158. New York: Penguin Books, 1994.

25 Ibid.

26 Stewart, Jack Cohen and Ian. "Collapse of Chaos; Discovering Simplicity in a Complex World." In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 170-171. New York: Penguin Books, 1994.

27 Ibid.

28 Ibid.

as two different and distinct levels, each with its own distinctive order and dynamic. Additionally, the concrete and the abstract can also be understood as levels that are significantly interconnected and always in relations of mutual interaction. There is a widely discussed phenomenon in science that can give us examples of how different levels of matter can, while remaining distinct and disparate, be internally connected to one another. This is what is typically referred to as *emergence*. For example; the gas laws, which are indexed by *statistical* properties, are determined by dynamics at a micro-level (which is to say a non-statistical level);²⁹ *pressure* is measured by the average number of molecules in a given region of gas; *temperature* is the average kinetic energy of the gas molecules.³⁰ The simple apprehensible averages constitutive of the gas laws are produced by dynamics at a level of matter that is different in nature from the “emergent” level of statistical features. A complex *molecular* dynamic (in this case, the interactions and dynamics of the gas molecules) produces *molar* simplicities (the averages which constitute the gas laws).³¹ Another popular example of emergence is the case of the Mandelbrot set, in which a high degree of geometrical complexity is generated by “simple” dynamical rules that bear no resemblance to what they produce. There is no apparent connection between the dense intricacies of the Mandelbrot fractal and the terse simplicity of the rules for making the Mandelbrot set. These examples are meant to demonstrate scientifically observable instances of feedback and resonance between disparate levels of matter. The contention is merely that a similar relation between levels exists in the case of the abstract-concrete distinction, not that this instance is fundamentally the same in nature as these scientific examples.

If we accept that there are disparate levels of matter that are nevertheless in a relation, then we can establish the two most relevant levels to the problem of the abstract/concrete distinction. There is a *conceptual* level—an order of matter purely concerned with concepts—and an explicitly *material* level of matter. The former corresponds to what one might think of as the abstract and the latter as the concrete. The cognitive activity of a human brain (material/concrete level) imposes partitions onto concepts, which transforms and reconfigures said concepts (conceptual/abstract level) until the reconfiguration of the concept affects activity at the material level of matter. There exists a counter-effectuation of concept and materiality; the cognitive activity of humans entails conceptual re-configurations, implemented partitions, and transformations at the purely conceptual level. These transformations make a difference, insofar as that cognition imposes partitions that entail a distinct change in *what* thought is interacting with (thought engages with a re-configured concept), as

29 Ibid.

30 Stewart, Jack Cohen and Ian. "Collapse of Chaos; Discovering Simplicity in a Complex World." In *Collapse of Chaos; Discovering Simplicity in a Complex World*, by Jack Cohen and Ian Stewart, 233-234. New York: Penguin Books, 1994.

31 For various thorough conceptualizations of relations between “molecular” and “molar”, see *A Thousand Plateaus; Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1987., and *Anti-Oedipus; Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1983.

well as in *how* it is functioning. Thinking a transformed concept, as well as thinking the transformation of a concept, exacerbates different tendencies and intensities of thought. A concept always corresponds to a degree of intensity—or an intensive zone—to the extent that the concept is grasped within thought. To provide a rough mathematic sequence of what occurs, a reconfiguration in the concept = a change in intensity = thought traverses a new zone of intensity. To the extent that thought is something that occurs in the brain, a material difference made in thought necessitates a difference made in materiality *in general*. The difference is made not only at a molecular level—the material processes that occur in the brain—but also at a molar level; differences made in thought can cause people to take different actions, and to react differently to stimuli than they otherwise would have. To re-encapsulate the dynamic, thought subsists in materiality and in material processes (thought subsists in a brain). Thought enacts transformations at the level of concepts, the transformation of concepts, and enacts a new difference in thought, which effectuates change at molecular and molar levels of materiality.

Outlining this dynamic of abstract and concrete levels and their relation to thought also sheds light on the precise nature of thought's position. That is, *thought is a point of convergence and interpenetration between the two levels*. What is *abstract* is *immediately apprehensible to thought* and is cognizable *a priori*. Mathematical universals are the best example of this: a right angle, a straight line, an equilateral triangle, all of which are perfectly cognizable *a priori*. These things are immediately apprehensible and graspable in thought, and they have their own order of necessity. I am perfectly capable of cognizing a straight line *a priori*, and the essence of the straight line is such that if I imagine three straight lines congruent with one another, they each form an equilateral triangle. However, one never encounters in experience (i.e. 'the concrete') a perfectly straight line. What is 'concrete,' on the other hand, is *clearly and immediately grasped* by mechanisms of perception. Yet, there are things encountered in experience that are clearly not cognizable *a priori* (or, at least, not as easily as our straight-line example). The example that Aristotle gives is "the snub nose."³² A misshaped nose is something immediately perceived; however, we cannot grasp it in thought with the same efficacy as we do with mathematical universals. *The abstract is concrete in thought, but the concrete is abstract to thought*. If we relate this configuration of the abstract/concrete distinction regarding thought to our discussion of conceptual/material orders of matter, we can also view the interaction of the two orders (concepts and materiality) in another equally valid way; concepts are something abstract, and engage, and deal with, the concrete abstractly, or by virtue of abstract connections. The cognition of an object is an action that is enmeshed within the territory of the concrete, but the activity of cognition entails the powers and aspects of the abstract, abstract faculties, and the powers of abstraction. (I am tentatively defining abstraction

³² For a similar distinction between differences in accessibility of the Abstract and the Concrete, see Aristotle's *Metaphysics*.

here as the apprehension of abstract properties [the straight/straight line], which are coextensive with the cognition and experience of a concrete object.)

8) The Implementation of Concepts in a Regime

In order that a regime effectively realize the concept that is said about it, concepts must be configured and interacted within a particular way. This can be understood in terms of the conceptual-materiality circuit. The material order and the conceptual order must interact in order to implement conceptual structures into material structures of control. A partitioning and value distribution process must occur in terms of concepts in order for this to happen. This is something that is necessary for the regime to employ, since concepts apprehended at a purely abstract level are not sufficient for political instantiation. Take something like equality: even though a dichotomous relation can be said of purely conceptual articulations of equality—to the extent that equal/unequal is an abstract conceptual principle—articulations that are exclusively of the conceptual level are obviously not insufficient for politics. The order of the abstract on its own is too *cold* for political dynamics; *heat* must be applied in order to set things in motion. A partition must be applied to the concept, and values must be distributed according to the partition. At the conceptual level, a stricter partition must be applied to equality; the partition is *imposed* as an overlay to the purely conceptual dichotomy (equality/inequality), and different values are distributed to the two sides of the instantiated partition. In accordance with the relation of feedback between levels, the implementation of this partition functions on the part of those material institutions that conceive of it, who, in turn, determine the concept of equality in a certain way. The determination of this concept effectuates how the political program carries out that conception, and in what manner it does so at the actual/concrete level. It might be objected that the aforementioned dichotomy of equal/unequal already invokes a type of conceptual partition, even though we are talking about it as if it is something different in kind from the partitioning process. This type of dichotomy exists completely *a priori*, so even if a partition is said about it, it is a partition that occurs at a level irrelevant/distinct from the political instantiation of concepts. Pairs of *a priori* conceptual differences, such as straight/curved, discrete/continuous, or equality/inequality, are not *deliberate* partitions on the part of any given subject or regime. It would be more accurate to say that they are conceptual dichotomies that incarnate tendencies and internal limitations in thought.

9) Conclusion; Complexity – The Order of Knowledge and Nihilism

If we are told that the arrow of time necessarily corresponds to an increase in disorder, then the trajectories of both control structures and the domain of human knowledge would exemplify a tendency that does not accord with this postulate. The arrow of time that follows the trajectories of our control-cognition double helix also appears

to correspond with a progressive increase of *order* rather than disorder over time. Deleuze's example of control societies alludes to this—political domination begins to become more complex, more sophisticated. Even before the control society, the modern State in general appeared to index something particularly sophisticated and abstract. What exactly is the State? It is not completely physical since many of its important functions (such as law and rights) are not concrete. Yet, despite not being completely physical, it clearly exists, and disobeying the injunctions of this thing that is not completely physical still has concrete material consequences (such as going to jail or paying a fine). On the other side of the double helix, the body of human knowledge becomes extremely saturated with systems and sub-systems of organization. Knowledge considered as a total body is not only a system of information-preservation and organization. It is also like a gigantic complex of interlocking and communicating systems. Different intellectual disciplines communicate and interact with one another, often forming new sub-disciplines. Sometimes there is even a synthesis that produces a completely novel field. Even as older schemata become phased out or invalidated by new discoveries, archaic systems or ideas sometimes resonate with newer scientific projects, and can be re-integrated and updated into contemporary scientific practices. The order of knowledge is like an expanding but increasingly detailed web whose parallel lines resonate and communicate with one another. Different sections of the web are sometimes folded into and connected to other parts of the web, yet, the structural totality retains its distinct parts, and the entire thing continues to increase in size and detail.

However, as this web becomes more and more detailed, a corresponding dynamic arises that is different from the other dynamics contemporaneous with complexity that we touched upon earlier. This web of knowledge possesses *within it* unified simplicities, but there is no higher-level simplicity that emerges on behalf of this sprawling structure of complexity. In the complexity of the human body/brain, we have something like identity, as well as abstract operations of identification and cognition. In the practice of science, which is an activity within the body of knowledge, we have the conceptualization and unification of phenomena under laws of nature. With the increased complexity of control societies, we witness the emergent function of certain mechanisms like corporations, data sets, and code. Where is the level of unification that corresponds to this highly stratified body of knowledge? There does not appear to be a connected level of unified simplicities and/or abstractions that corresponds to this complex web. However, this does not mean that there is no a corresponding dynamic related to the increasing order in the body of knowledge. As knowledge becomes more saturated with order, another tendency intensifies in connection with the former dynamic. If one looks *up* for a corresponding process of unification at a higher level, it looks like nothing is there. But if one looks *down below*, he will find that there *is* nothing. There seems to be a flattening effect; something becomes *liquidated*, something is increasingly *becoming*

leveled. The progressive acquisition and articulation of abstract universals on behalf of knowledge causes the implementation of a concrete universal of *disenchantment* among those organisms that are supposed to be its inheritors. The more about the world that is rigorously explicated and systematized on behalf of knowledge, the more that we seem to feel as if something that once deeply belonged to us is being expropriated from us before our very eyes. In fact, there seems to be almost no limit to what can be expropriated from our most cherished, personal intuitions about ourselves as they become articulated and codified into the colder, more impersonal territory of knowledge. This is because processes of knowledge and intelligence *disintegrate*, and what is being disintegrated are the givens upon which we have constructed very useful fortresses of illusion and ignorance that keep us sheltered from the Outside. Rather than producing a corresponding dynamic of *unification*, the trajectory of knowledge effectuates a dynamic of the intensified *disintegration* and *destruction* of unities—the destruction of *givens* which knowledge finds to have *never existed in the first place*. The liquidation of the ‘given’ opens humanity up to the absolute indifference of a universe that does not consider humankind to be nearly as important as it finds itself. Looking to a universe that operates with complete autonomy (but with no knowledge), we find ourselves on the other side of that chiasmus, as something endowed with knowledge, but with little to no autonomy. In understanding itself to be determined by impersonal and autonomous processes which *lack* knowledge, something which *possesses* knowledge apprehends its own lack of autonomy. Paradoxically, the condition of possibility for cognizing such a disparity is a condition that is produced by the autonomous—by a blind god. As the structure of knowledge becomes more saturated with order and detail, nihility coagulates and rises from the core of the Earth, oozing through the cracks in the surface, melting the ground below us. But there is nowhere to go but further down. ♦

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