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Contents

Truthful Politics: Introduction

Chris Henry

For too long, critical theory has ignored, or worse disparaged, the idea of truth. Truthful political philosophy is often the target of a political philosophy which seeks to dismiss claims to truth as uncritical and dogmatic.[1] Yet, as Meillassoux has shown, casting the notion of truth aside out of hand constitutes a fideism akin to the same quasi-religious dogmatism that was the original target of critical thought. The claim that there is no truth carries the same metaphysical weight as a truth claim itself.[2] So, for example, when David Cameron told us in his 2015 New Year's speech that '2015 can promise to be a great year for our country - if we make the right choices together', a critical theorist might respond by pointing out that there is no 'right choice' in the first place. Yet how true is the claim that there is no 'right choice'? If we were to disparage the idea of truth, how could such a claim be valid, correct or significant?

The above problematic underpinned the Truthful Politics stream at the 2015 London Conference in Critical Thought. Starting from the premise that truth claims were, at the very least, of interest to political argumentation, participants were invited to explore issues regarding the conceptual, theoretical and practical-political nature of the idea of truth. Particularly against the background of post-foundational and post-structuralist theory, the stream explored how truth claims could justify politics or how, in turn, truth claims could be (politically) justified. The following passage from Misak neatly expresses the issue at stake:

> We think that it is appropriate, or even required, that we give reasons and arguments for our beliefs, that 'rational' persuasion, not brow-beating or force, is the appropriate

[1] The author would like to thank the anonymous reviews for their important contributions to this introduction.

[2] Q. Meillassoux, *After Finitude: An Essay on the Necessity of Contingency* (London and New York: Continuum, 2008), 28.

> means of getting someone to agree with us. Indeed, we want people to *agree* with, or at least respect, our judgements, as opposed to merely mouthing them, or falling in line with them. And we criticise the beliefs, actions, and even the final ends and desires of others, as false, vicious, immoral, or irrational. The fact that our moral judgements come under such internal discipline is a mark of their objectivity. The above phenomena are indications that moral inquiry aims at truth.[3]

Henry and Jones both presented papers that investigated the legitimacy afforded to political arguments from their foundational truth claims. Dissatisfied with the four standard theories of truth (coherence, correspondence, pragmatic and deflationary), both Henry and Jones developed concepts of political truth, in the immanent tradition on the one hand, and the *aletheiatic* tradition on the other. Henry draws on a line of thought that runs from Machiavelli and Spinoza through to Nietzsche and Deleuze, to argue that truth claims can only be made of the sense by which we understand the world. According to this tradition, sense is constituted by the world *whilst* it senses the world and, as such, Henry's truth is immanent to both. Jones, on the other hand, draws on the *aletheiatic* tradition, where aletheia can be translated into 'un-hiddenness', or 'unveiling'. The *aletheiatic* tradition started in ancient Greek philosophy before being translated into early Christian and Gnostic texts as 'revelation' and finding its contemporary expression in the work of Heidegger and German mysticism. For these thinkers, the source of truth is often revealed by certain events from an otherwise inaccessible/unknowable domain. In this sense, individuals act as way of actualising a source of truth that is either greater than them (particularly within the Christian tradition), or that is held in an inaccessible void.

Yet why would one wish to move away from standard discourses on truth? In contemporary theories, the commitment to truth is no longer tied to either metaphysical absolutes or epistemic privileges, as it was in the pre-modern period. Rather, contemporary theories of truth bind individuals to a fidelity to the object and the practice of

[3] C. Misak, *Truth, Politics, Morality: Pragmatism and Deliberation* (London and New York: Routledge, 2002), 3.

discourse that is open to challenge and criticism in light of how things stand, regardless of one's privileges. Yet it is not clear how this openness to challenge, often advocated in the name of resistance, the subaltern, or minority groups, strengthens the idea of truth as much as it relegates it to the realm of *doxa* (i.e. received wisdom). A political philosophy that sways with the tide of prevailing opinion can hardly be called truthful, and what is truthful may also not necessarily be preferable. Both Henry and Jones are therefore attempting to think an idea of truth that avoids, on the one hand, a purely pre-modern form of truth to which privileged access then sanctions authoritarian forms of domination and, on the other, a post-modern form which strips truth of any justificatory–and therefore political–weight whatsoever.

The key distinction between the two positions that follow is summed up by Jones in his contribution. Whilst he supports Henry's efforts to resist the oppression of truth claims 'on the basis of dogmatic theological or pseudo-theological truth claims', he locates oppression not in dogma itself, but in the lack of scrutiny bestowed on truth claims that *actually are dogmatic*. Jones asserts that there is an unavoidable authority that justifies political discourse, and that, in fact, it is pretence to the contrary which opens up the potential for political coercion. In other words, the problem is not the dogma inherent in truth claims, but the lack of interrogation when dogma is not fully exposed and embraced. Jones suggests that a turn to embedded cognitive neuroscience is one such mode by which we can scrutinise and hold to account claims that are founded upon a political theology. For Henry, the problem of coercive truth claims does indeed lie within dogmatism itself. It is precisely a recourse to the transcendental that constitutes the grounds for political coercion and oppression. He maintains that any theory which specifies where truth comes from creates a duality between 'truth as the truth of some-thing and anything else which is not that thing'. As a result of this specification, such a theory can only ever tell a partial truth, i.e. the truth of what it specifies. Crucially then, for Henry, such a theory cannot tell the truth of why the theory is itself truthful. The theological authority that Jones advocates as legitimising political action is secularised as soon as it is described, and we are left with the question: how true is the statement "the source of truth is God"? Henry suggests that, rather than a set of truthful claims revealed by human action from a theological realm,

truth is a *function* of our sense of the world. One literally *makes* sense of the world, and this sense is truthful to the extent that it is a product of the individual learning about themselves in the world.

Neither of these contributions should be read as full arguments in their own right; the purpose of them is instead to reinvigorate and provoke the discussion of truthful political philosophy. In this sense, neither purports to be as fleshed out as would be necessary to fully sustain the claims made within them. Yet what is clear from both provocations is that thinking the idea of truth remains a necessity for the justification of political philosophy, and that closer examination of pre-modern forms of truth are called for to do this. Intended as stimulation for further debate, Henry and Jones offer suggestions for countering what Meillassoux laments as the '*fideism of any belief whatsoever*'.[4] In order to overcome the situation whereby the de-absolutisation of metaphysics threatens to blunt the critical edge of critical thought through the upholding of belief, perhaps a return to truth is exactly what is needed.

[4] Meillassoux, *After Finitude*, 46.

On Truth and Instrumentalisation

Chris Henry

Two issues were raised in discussion at the 2015 London Conference in Critical Thought that I will address here. The first issue was that of the nature of truth as a source of legitimation. In his paper, Jones showed that Schmitt's political theology conceptualises political legitimacy as derived from 'secularised theological concepts'.[1] Yet Jones re-injects the theological into these secularised concepts: for him, politics is constituted by a leader who appeals to a legitimating power as justification for their own leadership, whilst those 'under' this leadership also necessarily submit to the same authority. Jones develops his theory of politics in this article by conceptualising truth as a disruption of 'certain absolutes' by political leaders, founded upon this secularised yet nonetheless theological idea of legitimation. As presented at the conference, my reading of Badiou places him in a similar position to Jones; whereas Jones used both explicitly Christian and secular theological terminology to locate political authority in the divine, Badiou uses a particular configuration of mathematics (specifically Zermelo-Fraenkel (ZFC) set theory) to locate truth in the void. Mathematics, according to Badiou, is the language of ontology itself and articulates truth within the world as a ruptural break from the standard order of things.[2] Both authors therefore wish to explain the axiomatic by which we can tell the truth of situations, but cannot explain the truth of this *condition of truth*. The first problem can be condensed thus: what can tell us the truth of God, or the truth of mathematics, upon which so much justification relies?

The second issue raised was that of circularity, or the self-referential nature of truth claims. Jones was asked whether or not the necessity on the part of the truth teller to proclaim the legitimacy of God undermined the idea of God as sacred. It seems that the secular justification of the authority of God is, in fact, a profane justification

[1] C. Schmitt, *Political Theology: Four Chapters on the Concept of Sovereignty* (Chicago and London: University of Chicago Press, 2010).

[2] A. Badiou, *Being and Event* (London: Continuum, 2011), 15.

that simply presupposes the divine authority of God. Likewise, when Badiou argues that the subject pays fidelity to an event in order to actualise its lessons in subsequent situations as truths, he presupposes the (mathematical) conditions of the event. Both authors therefore conceptualise truth through circular reasoning: truth is articulated by one who proclaims fidelity to a presupposition (i.e. God or mathematics) which then authorises their proclamation *post hoc*. My argument, however, as an alternative for Badiou's and Jones', was also challenged for its circularity. In my conference paper, I argued that 'concepts are truthful for Deleuze as long as they express an event', where an event is understood as a qualitative or quantitative change in the state of affairs.[3] On this basis, when Deleuze joins Nietzsche in claiming that objects do not exist separately from their expression, he removes the mind/body duality that underpins conventional theories of truth and the aletheiatic theories of both Jones and Badiou.[4] For Deleuze, neither the mind, nor language (nor, therefore, truths) refer, cohere nor correspond to a mind-independent world. Instead, following Spinoza, the world and the mind are expressions of a single univocal event and it makes no sense to say that one can adequately refer to another.[5] Because Deleuze discounts a mind-independent

[3] See G. Deleuze, *Expressionism in Philosophy; Spinoza* (London and New York: Zone Books, 1992). See also J. Williams, "If Not Here, Then Where? On the Location and Individuation of Events in Badiou and Deleuze." *Deleuze Studies* 3(1), 2009, 106. In the *Ethics*, Spinoza is at pains to demonstrate both that the 'order and connection of ideas is the same as the order and connection of things', and that both thought and extension are expressions of God (which is the same as nature) (See Spinoza, *Ethics: Treatise on The Emendation of the Intellect and Selected Letters* (Indianapolis and Cambridge: Hackett Pub. Co, 1992), Ic25, II, 28)*.* On this basis, for Deleuze, concepts can be true only if they have been created as part of a material change, as opposed to being the result of a formal (i.e. mathematical) operation. Formal operations specify their conditions, the truth of which they cannot account for, and thus fall foul of the first problem outlined above.

[4] F. Nietzsche, *Beyond Good and Evil / On the Genealogy of Morality* (Stanford: Stanford University Press, 2014, § 13.

[5] For this reason, it does not make sense to formally differentiate between truth and truthfulness (i.e. saying something true or saying something sincerely believed) with regards to Deleuze's philosophy. As MacKenzie explains, 'if the event is that which makes sense possible in the first place […] the meaning of events will never be given by reference to a predetermined ideal of how sense relates to events' (I. MacKenzie, and S. Malesevic, *Ideology After Poststructuralism* (London and Sterling: Pluto Press 2002), 22). In other words, there is no formal distinction between truth and truthfulness for Deleuze, for the latter presupposes the facticity of an object a priori of its expression, an a priori which Deleuze disavows. The terms are used here interchangeably.

world in favour of an event-oriented ontology, which treats mind and world as aspects of events however, I was asked to account for how any claim to truth could be made of things–including truth itself–that are constantly changing as they are expressed by the event. How, in other words, can Deleuze account for the truth of the production of truth?

In response to these two problems, this paper makes two claims. Firstly, it shows that thinking the truth of any particular concept (such as politics) is founded upon an instrumental logic that betrays the truth of a situation. Truth cannot be thought 'of something', for this would fall back into a theory of correspondence. Instead, truth is a function of thought. In order to make this move to a functional concept of truth, I outline Dewey's criticism, and two important repercussions, of dogmatically instrumental philosophy. I then show how Badiou's philosophy is indeed guilty of instrumentalisation, but emphasise that his prioritisation of truth is nevertheless important to maintain. The second claim this paper makes is that the criticism of Deleuze's conception of truth as circular is misplaced, as it is founded on the assumption that Deleuze conceptualises the truth of objects. Instead, I show that, for Deleuze, truth is not a property of an object but of its production. To reach this conclusion, I develop what I call Dewey's account of pragmatic instrumentalisation (as opposed to the dogmatic instrumentalisation he criticises) into Deleuze's concepttuali-sation of truth as the process of making sense of our precarious world. I conclude by making some provisional remarks that Deleuze's pragmatic account of truth paves the way for an ethics that is not founded on truths it cannot explain (i.e. God or mathematics), but as an ongoing, subversive practice.

Instrumentalisation

In *Experience and Nature*, John Dewey argues that, hitherto, all philosophy has been constituted around the principle of instrumentalisation, whereby concepts are developed as part of an attempt to understand the world in service of a cause. Importantly for Dewey, prefiguring Althusser's concept of ‚denegation', this cause is rarely admitted to be part of the process of instrumentalisation. He shows this philosophical lineage tracing back to Platonic inspiration

and the appropriation of artisanship by ancient philosophy.[6] By instrumentalising the world with both the Platonic ideal form and Aristotle's efficient and final causes, objects are appropriated by philosophy in an attempt to reduce the world to a set of properties which both Plato and Aristotle could articulate to suit their political goals. As developed below, the point I want to make here is not that it is necessarily an issue to appropriate thought for a purpose, but that that purpose must not be dogmatic.

The upshot of dogmatic intellectual appropriation of the world is two-fold. Firstly, as Sleeper puts it, this appropriation 'is the root cause of the dualisms that litter the train of Western thought from Plato to positivism, driving conceptual wedges between matter and form, body and mind, fact and value'.[7] Were it not for the 'contemplation of eternal truths dimly perceived as somehow transcending and governing the confusing world of the live creature', he argues we could 'evolve our first philosophy from the logic of experience, from the analysis of existential problems and their means of resolution'.[8] In other words, Dewey accuses the entire tradition of Western metaphysics of setting out from first principles that it cannot–or will not–account for, and the resultant construction of abstract claims upon false dualities, such as dialectics.[9] Secondly, the instrumentalisation of the intellect serves a management function, with the mode of management matching the mode of instrumentalisation. In service of this intellectual appropriation, as Dewey argues, self-evidence ceases to be important for developing new ideas and, if new phenomena destabilise the existing philosophical postulates, they are cast aside, re-presented or disregarded in favour of efficient management.[10]

To support his claim, Dewey highlights mankind's experiences of an existentially precarious world, where the precarity of existence must be accounted for metaphysically to the same extent as its stability.[11] Precarity is not an empirical observation–Dewey would not argue, for

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[6] J. Dewey, *Experience and Nature* (New York: Dover Publications, 1958), 128.
[7] R. W. Sleeper, *The Necessity of Pragmatism: John Dewey's Conception of Philosophy* (New Haven and London: Yale University Press, 1986), 136.
[8] Ibid.
[9] Dewey, *Experience and Nature*, 46-47; Sleeper, *The Necessity of Pragmatism*, 114-117.
[10] Dewey, *Experience and Nature*, 130.
[11] Ibid., 40-44.

example, that 1929 is any more precarious than 1928–but a metaphysical claim. Situations that individuals find themselves in are, for Dewey, not wholly comprehensible because they are presented to the individual by a partial encounter.[12] For example, a student's experience of a classroom might be constituted by the interaction with their teacher, their peers and the classroom geography, but this would only be a contingent and local presentation of the larger situation which would include government targets for syllabuses and University budgets. For Dewey then, an individual encounters a situation into which they enquire. This encounter forms the antecedent conditions for this inquiry, yet the situation that the individual encounters extends much further than is presented to the individual. It is this extension into what is *not* presented to the individual that constitutes the situation's precarity, whilst the learned intellect immanently constitutes the situation's stability. The encounter between thought and a situation is important for Deleuze's conceptualisation of truth and will be expanded on below but, first, what is the problem with the dogmatic intellectualisation of the world, as undertaken by Badiou and Jones?

Dogma

The weight of Badiou's political prescriptions relies entirely upon their (rational, axiomatic) subtraction from both *doxa* (opinion) and the sensible.[13] Using the mathematical apparatus of ZFC set theory, Badiou's intellectual project is to 'militantly pursue the severing of the infinite from the One, making it impossible to reappropriate the former', thus affirming 'the pure one-less infinity of the multiple as such'.[14] Put in Dewey's terms, Badiou wishes to affirm precarity as that which conditions our potentially infinite ability to act as we may want, were it not concealed by our petty human sensibilities (i.e. *doxa* or the 'One'). Badiou's revelation proceeds by reversing the Platonic priority of the One over the multiple and infinite, and demonstrating how the infinite can be accessed *despite* the One. So, in certain

[12] J. Dewey, *Logic: Theory of Inquiry* (New York: Holt, 1938), 106.
[13] See also: P Hallward Badiou*: A Subject to Truth. Minneapolis and London (University of Minnesota Press, 2003), 93-106; A. Badiou, Metapolitics (London and New York: Verso, 2005), especially ch. 10;* and S. Critchley*, Infinitely Demanding: Ethics of commitment, politics of resistance* (London and Brooklyn: Verso, 2008).
[14] F. Gironi, *Naturalising Badiou: Mathematical Ontology and Structural Realism* (Basingstoke: Palgrave Macmillan, 2014), 32.

situations, the presented order of things is ruptured in an event which allows the faithful to act in accordance with the teachings of that event.[15] It is here that Badiou's project looks remarkably similar to Jones', who also thinks that proclaiming fidelity to an inaccessible realm from which truth can be articulated is a necessary part of a political account of legitimacy. However, as others have also noted, Badiou's ontology also relies upon epistemological propositions that both reduce and secularise his conception of the infinite.[16] The distinctions that Badiou uses in order to elucidate his ontology–those of truth/*doxa*, intelligible/sensible and is/is not–are denegated, ideal postulates that condition his ontology before being re-introduced as symptoms of it.[17] So, Badiou's ontology does fall to Dewey's criticism of instrumentalisation: Badiou instrumentalises thought in a circular argument which declares that this instrumentalisation is a product of the ontology it specifies.

The circular problem of Badiou's mathematical ontology can be put more generally: any philosophy which purports to tell the truth *of* something (including the world itself, or the propositional form of a truth statement) instantiates an ontological duality between truth as the truth of some-thing and anything else which is not that some-thing. As a result, it must also admit to not being able to tell the truth of what is not that thing. Indeed, the four main theories of truth (coherence, correspondence, pragmatist and deflationary), as well as Badiou's and Jones' theories, make claims about either the truth of the form of propositions, sentences or claims, or of the world.[18] Because each theory specifies its own remit, it cannot explain the truth of what it does not specify and, most importantly, this includes the ability to tell the truth of the mind/world differentiation that is implicit (and often

[15] A. Badiou, *Being and Event* (London: Continuum, 2011), 52-59.
[16] See S. Žižek, *The Ticklish Subject* (London and New York: Verso, 2000), 127-170; A. Badiou, *Theoretical Writings* (London and New York: Continuum, 2004), 260; F. Laruelle, *Anti-Badiou: The Introduction of Maoism Into Philosophy* (London and New York: Bloomsbury, 2013), 111-118; Gironi, *Naturalising Badiou*, 13.
[17] Laruelle, *Anti-Badiou*, 115; D. Sacilotto, "Towards a Materialist Rationalism: Plato, Hegel, Badiou", *Badiou Studies*, 2(1), 2013.
[18] See F. F. Schmitt, *Theories of Truth* (Malden, Oxford and Carlton: Blackwell, 2004), 1-31; See also A. Parr (ed.), *The Deleuze Dictionary Revised Edition* (Edinburgh: Edinburgh University Press, 2010), 292-293. Others have reduced this list simply down to 'beliefs' (See A. G. Burgess and J. P. Burgess*, Truth. Princeton and Woodstock* (Princeton University Press, 2011) 3).

explicit) in all of the theories. Furthermore, the mind/world split necessitates that the mind either form a perspective of the world (such as in correlationist theories of truth) or form judgements of perspectives (such as in coherence theories). According to this necessity, traditional theories of truth result in an unreconcilable differentiation between different truth claims, where different subjects will have different perspectives or judgements from each other. Although Badiou rightly avoids traditional, propositional theories of truths, in his case the circularity is to be found within his 'truth procedure', i.e. in the distinction between the truth of non-being (the void) and not the truth of being (the sensible/opinion). Badiou states what the truth can be told *of* and proceeds to elaborate how we may do this.[19] In all cases, however, it is hard to accept theories of truth that limit the remit of their application by prescription. If the concept of truth is to be held on to, what is needed is an ambitious account of truth that can account for everything, including its own account of the truth.

Truth as function

It is often supposed that contemporary philosophy shies away from conceptualising the truth, if it does not reject the concept entirely, for precisely the problems associated with circularity mentioned above.[20] It might be more productive to focus instead on concepts such as equality, representation or stability to ground political claims. Yet, as Rorty confirms, philosophers rarely say that there is no truth even if they are reported to do so.[21] As contemporary philosophy has attempted to move beyond dogmatic metaphysics towards contingent structures, truth must also (to a greater or lesser extent) be a functional part of contingent structures. Indeed this might explain why philosophies that do not focus on truth as the articulation and

[19] In particular, see A. Badiou, *Logics of Worlds* (London and New York: 2009). Badiou defines a truth procedure as that which results from an event and conditions the event's actualisation within subsequent situations. According to Badiou, there are four truth procedures (politics, science, art, and love) and, with regards to the political, Badiou claims that 'the procedure it engages exhibits a political truth, only under certain conditions' (A. Badiou, *Metapolitics* (London and New York: Verso, 2005), 145).

[20] N. Gavey, "Feminisit Poststructuralism and Discourse Analysis: Contributions to Feminist Psychology", *Psychology of Women Quarterly* (13), 1989, 462.

[21] R. Rorty, *Truth and Progress: Philosophical Papers* (Cambridge University Press, 1998), 1.

exploration of structures understandably take centre stage in place of a detailed scrutiny of how structures are constituted. However, if Dewey is correct to argue that thought instrumentalises a precarious world, then truth must be seen as a concept with which to understand how different and changing structures adequately instrumentalise it. The 'truth of the matter' would then not be a description of the world under any one *particular* transcendental description of truth. Instead, truth might be thought of as a functional component of the sense that understands the world, which appropriates and creates different structures as necessary. Dogmatic instrumentalisation becomes pragmatic instrumentalisation. This process, whereby the subject creates appropriate and adequate structures for its use, is what Dewey calls an inquiry into the world and Deleuze calls an apprenticeship.[22]

Deleuze's idea of apprenticeship can be thought of as a practice of living truthfully in the world. As opposed to Badiou's and Jones' conception of truth, which rejects the truth of the world in favour of truth found outside it, Deleuze wants us to affirm the world. Yet Deleuze is hostile to traditional theories of truth and this is particularly clear when he argues that the 'mistake of philosophy is to presuppose within us a benevolence of thought, a natural love of truth'.[23] This motif, often repeated throughout Deleuze's work, is a warning against those who assume that thought inherently leads to what is good for the one who thinks. Thought is not essentially good for the individual because it is not totalising; it does not contain all that is necessary to know the truth of the world. Were this to be the case, the adequacy of thought to the world would necessarily be '*de jure*, and not simply a question of fact'.[24] In other words, proving that thought (and therefore truthful statements) contain within them the aptitude to tell the truth is a Sisyphean feat: every truth claim must be bolstered by

[22] This paper argues that Deleuze, and not Dewey, provides the more suitable conceptualisation of truth. Dewey's inquiry is in line with Popper's theory of science: it is essentially falsificationist. His theory assumes the probability that statements made will not be true in the future as one of their preconditions (Dewey, *Logic: Theory of Inquiry* 345). As Nissen develops in a detailed criticism of this conceptualisation of truth however, a statement that is true except to the extent that it is not true can hardly be called a truthful statement at all (L. Nissen, *John Dewey's Theory of Inquiry and Truth* (The Hague and Paris: Mouton & Co, 1966), 98). Therefore, Deleuze's conceptualisation is preferable because, for him, truth is always true, irrespective of spatio-temporal change.

[23] G. Deleuze, *Proust and Signs* (London and New York: Continuum, 2008), 11.

[24] G. Deleuze, *The Logic of Sense* (London: Continuum, 2004), 20.

the theory of truth that grounds it, the rules of which, in turn, must be re-evaluated in terms of the new claim. It is, however, tautologous to suggest that a theory can test its claim according to its own terms. Instead of relying on a benevolent and totalising image of thought to *find* the truth, Deleuze's conceptualisation of truth is functional, and Deleuze argues that truth is '*betrayed* by involuntary signs'.[25]

What does it mean for truth to be betrayed by signs? In order to know truth, Deleuze argues that we 'must first experience the violent effect of a sign, and the mind must be "forced" to seek the sign's meaning'.[26] For Deleuze, the individual encounters situations through four kinds of signs that exist in differential relation to each other: worldly signs (those of meaning); amorous signs (those that impel one to become sensitive to something); sensuous signs (those that give one joy or sadness); and artistic signs (signs of pure affectivity).[27] The encounter, for Deleuze, forces the individual to understand a situation, and this understanding is created in part by the affectivity of signs and in part by the signs' relation to thought. There is no truth of the world in-itself, as this implies that there are objects *a priori* of sense to find the truth *of*. Instead, for Deleuze, sense is true if it has been created by the individual in synthesis *with* their previous understanding *and* what they have learned from their encounter with the world. To explain this, Deleuze uses the melancholic example of a man who has been lied to by his partner, asking, '[w]ho would seek the truth if he had not first suffered the agonies inflicted by the beloved's lies?'.[28] The deceived is impelled to inquire into the truth, not of the lies that he has been told (for these constitute only part of his situation), but rather of his wretchedness (i.e. his situation). His sense of the situation–his truth–has been betrayed by the encounter, which has constituted his melancholy as part of the situation. In this regard, Deleuze's idea of truth avoids the circularity found in Badiou's and Jones' ideas. Truth is not a truth *of* something (i.e. the world or void), and is therefore not open to questions about its limited remit, but it is a *function of making sense in the world.*

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[25] R. Bogue, *Deleuze's Wake: Tributes and Tributaries* (New York: State University of New York Press, 2004), 64. See also Deleuze, *Proust and Signs*, 11. Emphasis mine.
[26] Deleuze, *Proust and Signs*, 16.
[27] Ibid., 1-10.
[28] Ibid., 16.

Ethically truthful

Truth, according to Deleuze, appears to be so far removed from the four traditional theories of truth as to disqualify it as being truth at all, or at the very least so obscure as to render it redundant.[29] So what is to be learned from it? There are three points to be taken from Deleuze's conceptualisation of truth. The first is that Deleuze invites us to learn: for Deleuze, we are apprentices in the world to the extent that we learn about ourselves embodied within precarious situations. Thus, when Deleuze argues that 'the condition of truth is not opposed to the false, but to the absurd',[30] he encourages us to literally *make sense* of otherwise absurd situations. Understandings of situations are not fixed before they are encountered, so frittering one's life away as a result of being lied to by ones' love is not necessary. Instead, one might creatively affirm one's own place with respect to the liar; not all lies are bad, and learning the truth of the situation *makes* sense of the lie. Secondly, truth is non-propositional, although it may incorporate propositions within it. For Deleuze, propositions only tell a partial truth–the truth *of* the proposition–which amounts to no truth at all, and he reminds us that 'the truth has no need to be spoken in order to be manifest'.[31] Thirdly, and most importantly, truth is both ethical and subversive. [32] Through his critique of dogmatic *a priori* and transcendental claims, Deleuze encourages individuals to take an active role in their own lives in order to remain open to the encounter.[33] One must hold attempts to coerce, dominate, control or lie to us to account, not for the sake of necessarily rejecting these attempts for the sake of it, but to ensure that they benefit us. Deleuze encourages us to make sense of dogmatic ideas and, in doing so, think of ways we might resist their effect on us.

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[29] This is indeed the position taken even by the majority of Deleuze scholars who articulate their opinions in conversation, though rarely in text. Three notable exceptions to these scholars however are Rancière, Djordjevic, and Smith (see J. Rancière and R. Djordjevic Rancière, "Is There a Deleuzian Aesthetics?" *Qui Parle*, 14(2), 2004, 1-14; see also D. W. Smith, "Temporality and Truth", *Deleuze Studies*, 7(3), 2013, 377-389).

[30] Deleuze, *The Logic of Sense*, 18.

[31] Deleuze, *Proust and Signs*, 20.

[32] A. Negri, *Spinoza for our Time: Politics and Postmodernity* (New York: Columbia University Press, 2013), 97-98.

[33] I. Semetsky, "The Problematics of Human Subjectivity: Gilles Deleuze and the Deweyan Legacy", *Studies in Philosophy and Education*, 22(3-4), 2003, 219.

Deleuze's conceptualisation of truth clearly flies in the face of traditional theories, Badiou's mathematical truth procedures and Jones' Schmittian account of a political theology of truth, eschewing their penchant for organisational and top-down regulation of thought. When politics is presented as a precarious situation to which solutions must be found, Deleuze's theory of truth prompts the individual to problematise its apparent obviousness, and pragmatically instrumentalise thought to make sense of the situation.

Truth as Disruption

Tim Jones

In this paper I am seeking to advance a claim that an individual engaged in political discourse does so as one unavoidably, and even ontologically, under authority. Pretence to the contrary does not eliminate this but rather opens multiple avenues for covert power-plays. I share with Chris Henry a desire to begin with the personal and ethical as foundational to the political, and admire his employment of Deleuze's resistance to the oversimplification of situational truths. My main concern here is to address the *servile* nature of the politician in both pragmatic and ontological senses and by derivation to propose political speech as the act of public truth-telling; even and especially when the truth represents a disruption to the teller, and its telling a sacrifice.

Offering an imaginative framework for politics as the act of public *truth*-telling entails a general detailing of the legitimating power which is being appealed to in arbitration of the truthfulness of proclamations. Elizabeth Phillips points out that the idea of 'political theology' precedes Christianity, starting with the Roman refinement of the Hellenic idea of the city-state. 'The phrase '"political theology"' she says, 'was first employed in the Stoic philosophy of ancient Rome, which distinguished between three types of gods and thus three types of theology; the personified forces of nature (natural theology), the gods of legend (mythical theology) and the officially worshipped gods of the polis (political theology).'.[1] She goes on to show how this idea was developed through the 'two cities' idea in Augustine's City of God which critiques the Imperial political theology in light of the new Christian understanding of Christ as the God of the eternal city. Politics itself is inherently 'theological' in the sense that (regardless of religious confession or lack thereof) appeals tacit and explicit are routinely made by leaders to power(s) which legitimate their position and edicts. Carl Schmitt's observation that 'all significant concepts of the modern theory of the state are secularized theological concepts'

[1] Elizabeth Phillips, *Political Theology: A Guide for the Perplexed* (UK: Continuum, 2012), 4.

implies that the appeal to the absolute is present in political theory and practice regardless of the presence or absence of appeal to a specific god or gods.[2] John Caputo points out that 'when Derrida says that there are "theological prejudices" embedded in "metaphysics in its entirety, even when it professes to be atheistic", he means that when metaphysics poses as the supreme authority that pronounces "there is no God," it simply reenacts the role of God. It leaves the "center" standing and reoccupies it with other metaphysical pretenders to the throne: Man, History, Science, Reason, any version of Žižek's "Big Other."'[3]

Any species of the explicit pronouncement of deity(ies) as a ground might be distant to modern secular administrations, but our Western public plural ethics are still built upon deference to shadowy pseudo-theological notions of legitimating power. Max Horkheimer writes in critique of Paul Holbach's *Systeme de la Nature* (which he characterizes as 'the bible of eighteenth century materialism'); '[w]hen they build a system, theists and atheists alike posit an entity at the top.'[4] That is to say, that all systems carry the vestigial form of the theologies which underpinned the cultures in which they were bred, but with that 'evacuated centre'. Therefore, all of the machinery for making claims to authority and truth are not in fact internally coherent but still purport to an external validity.

I appreciate that this is the kind of 'dogmatic' ethics that Chris Henry is resisting, rightly seeing these power-plays as potentially legitimating the oppression of one human group by another on the basis of dogmatic theological or pseudo-theological truth claims. But resisting the reality of absolutes could in itself be dangerous as it sidesteps the phenomena described, thereby preventing scrutiny of its variegated appearances in the theoretical basis of each and every political administration. If dogmatic truth claims are unavoidable, as I assert, subversion and emancipation are found not in their avoidance but in exposure and interrogation of the legitimacy of their grounds,

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[2] Carl Schmitt, *Political Theology: Four Chapters on the Concept of Sovereignty* (USA: University of Chicago Press, 2010), 36.

[3] John D. Caputo, Caputo, Review of *Difficult Atheism: Post-Theological Thinking in Alain Badiou, Jean-Luc Nancy and Quentin Meillassoux*, by Christopher Watkin, Notre Dame Philosophical Reviews, 2012, http://ndpr.nd.edu/news/31269-difficult-atheism-post-theological-thinking-in-alain-badiou-jean-luc-nancy-and-quentin-meillassoux/.

[4] Max Horkheimer, *Critique of Insturmental Reason* (UK: Continuum, 1974), 43.

and the real outcomes of their doctrines. There is no reason why a confessional theological system should necessarily not prove to be emancipatory even for non-adherents to its doctrines. Between 1902 and 1904, whilst in power as Prime Minister of the Netherlands, Abraham Kuyper published an extensive three volume work called *De Gemeene Gratie* ('Common Grace') wherein he outlined his understanding of God's providential working in the whole of human society:

> The social side of man's creation in God's image has nothing to do with salvation nor in any way with each person's state before God. This social element tells us only that in creating human beings in his likeness God deposited an infinite number of nuclei for human development in our nature and that these nuclei cannot develop except through the social bond between people. From this viewpoint the highly ramified development of humanity acquires a significance of its own, an independent goal, a reason for being aside from the issue of salvation. If it has pleased God to mirror the richness of his image in the social multiplicity and fullness of our human race, and if he himself has deposited the nuclei of that development in human nature, then the brilliance of his image has to appear… Then will have occurred that full development of humanity in which all the glory of God's image can mirror itself.[5]

Differentiated from the special or particular grace of salvation in Christ, Kuyper draws a wider circle, based on the Noahic covenant. He sees that, despite sin and fallenness, the world and humanity are still in God's hands. The world and human culture offer possibilities for God's glory to be demonstrated.

The Deleuzean/Spinozan configuration which Henry offers does not actually escape the charge of dogmatism either; the burden of sovereignty is merely shifted onto the 'speaking world' (requiring a kind of 'faith-in-world' in spite of the temporary nature of both world

[5] Abraham Kuyper, *Abraham Kuper: A Centennial Reader*, ed. James D. Bratt (USA: Wm. B. Eerddmans Publishing Company, 1998), 178.

and aletheiaic event), which therefore ends up serving as the big other' referred to above. 'But Nature does not say anything', says Horkheimer, 'as little as Being, which has been tried recently and which is supposed to deliver its oracles through the mouths of professors. The place of God is taken in each case by an impersonal concept'. And furthermore, with reference to the inherently theological character of even naturalistic systems, he says '[t]he dogma of a Nature which can speak and command – or at least serve as a principle for deducing moral truths, was an inadequate attempt to go along with science without giving up the age-old longing for an eternal guideline'.[6]

But, supposing that the world does indeed speak (and speaks truthfully), this immediately presents us with further problems of reception. How do we adduce that we have heard the world aright? If the world's speech were clear and our hearing good, from whence do disagreements, political debate, moral preference, etc. originate? The debate then centres upon interpretation, and whilst a radically relativist situational construction of truth may serve as an emancipatory device for the individual, even then it constitutes a localised power-grab, wherein the subject is still seeking to assert sovereignty, even if that ends up being merely internal resistance. Because of its entirely subjective nature, whatever the emancipatory potential of this move, it can only benefit the subject and is impotent beyond their person. The actual subversion of top down political change is instead derived from a sense of 'creatureliness' and personal submission to truth beyond temporal hegemony (truth to which the creature itself is, perhaps unwittingly, subject). This is well embodied in certain pre-modern understandings of the self which are currently enjoying something of a renaissance. Describing the thought of Thomas Aquinas, Denys Turner says, '[f]or Bonaventure we know the world and the self from the standpoint of God; for Descartes, we know the world and God from the standpoint of the self. For Thomas, we know both God and the self from the standpoint of the world. In this sense, then, Thomas is by a long way the more materialistically disposed by any measure, at any rate as to the mind's natural object. For Thomas that natural object is the material world.'[7] The pre-Cartesian sense of individual

[6] Horkheimer, *Critique of Instrumental Reason*, 43.
[7] Denys Turner, *Thomas Aquinas: A Portrait* (USA: Yale University Press, 2013), 56.

contingency (as opposed to individual sovereignty) has made a necessary resurgence due to advances in our understanding from contemporary fields such as 4EA cognition ('Embodied, Embedded, Enactive, Extended, Affective') and second-person neuroscience. The term 'creatureliness' denotes this understanding but with the creatures contingency being explicitly upon a Creator who is known to them through the experienced world. This thought echoes the New Testament text Romans 1:19-20 which says of humankind, 'What can be known about God is plain to them, because God has shown it to them. Ever since the creation of the world his eternal power and divine nature, invisible though they are, have been understood and seen through the things he has made'. Deleuze's perspective of the self, or selves, as thoroughly embedded in the world coheres with these turns whilst his naturalism obviously does not. On how the dynamic of being selves embedded in the world bears upon interpersonal ethical actions, theologian Oliver Davies states that the

> extent to which acting ethically involves the renunciation of our own meaning-making, by which we "autopoietically" determine ourselves against the unmanageable, unpredictable complexity of the real, is also the extent to which we open ourselves up in life, in vulnerability, affectivity, and empathy for the other. It is here that we see the emergence of our relationality and embodied embeddedness in the materiality of the world as a place of sharing. The ethical act, in which we renounce our meaning-making, is not meaningless, therefore, but rather exhibits a different kind of meaning. Its meaning is intrinsic to the act itself. The act is its meaning. The meaning of the act is that at this moment I am in the world in this way. In a sense, in this moment, I am world.[8]

Whereas Deleuze advocates a type of immanent naturalism, Davies' project is concerned with a recovery of the 'immanent Christ' as the proper referent for reality. The need for reclamation is due to at least one significant historical turn: in pre-modern understandings it

[8] Oliver Davies, *Theology of Transformation: Faith, Freedom, and the Christian Act* (UK: Oxford University Press, 2013), 190.

was commonly accepted that we lived in an 'enchanted universe' with Christ reigning materially at its highest (and therefore holiest) extent. The paradigm shift from Ptolemaic to Copernican cosmology and the technical advances which afforded it ruptured the security with which this kind of reasoning had hitherto proceeded. 'We can observe,' says Davies, 'that shift today in the simple fact that what was arguably the key scriptural doctrine of the early Church, which is to say the exaltation of Christ (understood in terms of the fact that he had "ascended to the right hand of the Father in heaven"), has become almost wholly redundant in the modern Church'[9] The Christian faith underwent a centuries-long crisis and a silence in its ability to answer the previously simple question 'Where is Jesus?' This is not to say that people or communities lost the ability to experience Christ or to live out a religious reality, but rather that they lost the language and logic through which they had expressed this reality. Seeing us as currently living through a 'second scientific revolution,' Davies holds that:

> [the] conviction that our new scientific self-understanding, which through its technology will surely soon come to shape us as deeply as did Newtonianism, has deep implications both for Christology and for our own self-understanding as agent in the world. It leads us to the view that it is when we act that we are most human (or created, as we would say theologically) and so, from a theological perspective, to act deliberately and freely in the name of Christ, through personal judgment in loving engagement, is the point too at which we are most in the world, or even most world.[10]

And sketching that current understanding he states that:

> [h]ere it is presupposed that we are materiality "all the way down". Neuroscience, genetics, and evolutionary biology show that mind and matter in us form a thoroughgoing continuity, each presupposing the other and each having causal effects upon the other within a continuum of human

[9] Davies, *Theology of Transformation*, 7.
[10] Davies, *Theology of Transformation*, 30.

> life as "intelligent embodiment" in a material world. Quantum physics does so even more radically. Consequently, there is no point at which the mind can be "outside" matter. We are free "within" materiality and not beyond it. [11]

All of which he sees as hugely promising for a new understanding of the 'Where is Jesus?' question being answered in the immanent material presence of Christ within the actions of his followers. Paul Janz describes the person operating under a 'creaturely' understanding as a creature in paradox. On one hand they are assured (with regards to their creatureliness over their autonomy) and on the other hand, they are disrupted as their interaction with an incomprehensible creator 'places [their] own being in question'. He concludes that it is 'only as the worldly, the natural, the secular and the rational are participated in and lived *in a certain way* – in creaturely directedness towards Christ…that the supernatural is given in the natural, the revelational in the rational.'[12]

A specifically Christian theological underpinning for public truth-telling requires that two points be made explicit. The most significant is that of Jesus' own perception of truth and his relationship to it. In the dialogue in John 18:33-38 wherein Pilate poses the possibly rhetorical, and ultimately unanswered question, 'What is truth?' to Christ, in response to Christ's statement that he had 'come into the world to bear witness to the truth', the 'truth' to which Christ is referring is ultimately found in Jesus' self-identification as 'the way, and the truth, and the life.'[13] This declaration is the de facto answer to Pilate's question which is posed four chapters later within the same text. On the basis of that, we might say that Christ's conception of truth was strictly ontic; focused upon himself as definition, culmination and index of previous revelation which had occurred within the culture of his witnesses. Christ participated in a Jewish culture and society which believed in a creator God, radically separate from all that exists but nevertheless the source of all Being.

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[11] Davies, *Theology of Transformation*, 14.
[12] Paul D. Janz, *God, the Mind's Desire: Reference, Reason and Christian Thinking* (UK: Cambrdige University Press), 216.
[13] John, 14:16.

Paul Tillich offered a modern theological formulation of this with his idea of God as 'ground-of-being.'[14] It is worth noting that Tillich's understanding veers into a very general sense of 'Being' which was close to a heterodox pantheism (thereby doing for Protestantism what Spinoza did for Judaism), whilst nevertheless seeking to explain something important about the proper 'ontological' relation of creator to creature. It is important to understand that the God posited by the Judeo-Christian heritage is wholly other, entirely separate from the being/non-being dialectic. It was this God who was understood to have miraculously spoken within human history to reveal (amongst other things) absolute ethical standards. These communications are recorded in the Jewish Torah, notably in the Decalogue,[15] as well as the many prophetic announcements recorded by Scripture which take the common form of a sovereign edict ('Thus says the LORD…'). These metrics were appropriated, affirmed and made more stringent in the teachings of Christ, specifically in the Sermon on the Mount in chapters five to seven of Matthew's account of the Gospel. Christ understood himself to be Israel's historic God made immanent. He therefore conceived of truth (as the disclosure of the ground-of-being) as embodied by himself.

The New Testament Letter to the Hebrews begins by outlining the Christian consciousness of this lineage: 'long ago, at many times and in many ways, God spoke to our fathers by the prophets, but in these last days he has spoken to us by his Son.'[16] It goes on to detail the relationship of the person of Jesus to the uncreated God in stating that he is 'the exact imprint of his [God's] nature.'[17] Christ, therefore, is in the unique situation of being creator (and thus sovereign) and simultaneously being creature (and thus servant), thereby knowing experientially and sacrificially what submission to absolute truth entails. Firstly, despite communicated standards, it cannot entail encyclopedic reference to an index of rights and wrongs. Christ points to love of God and neighbour as the foremost commandments and says that the whole of morality and ethics are dependent upon these two principles.[18] Secondly, therefore these must represent parameters

[14] Paul Tillich, *Systematic Theology Vol. 1* (USA: University of Chicago Press, 1951).
[15] Exodus, 20:1–17, Deuteronomy, 5:4–21.
[16] Hebrews, 1:1-2.
[17] Hebrews, 1:3.
[18] Matthew 22:37-40.

for truthful and just human behaviour consisting in sacrificial, other-orientated decision making. Thirdly, awareness of creaturely (as opposed to sovereign) standing introduces an allowance for failure and restoration; proud maintenance of innocence in the face of personal error is not necessary – practically outworking in a humility in leadership.

This brings us to the second issue arising for clarification between my position and Henry's; that of the status of the 'truth-teller' as an actor. In the theological configuration I have outlined, he or she would categorically not understand themselves to be 'the locus of the revelation of truth' but rather as recipient of and witness to the ethical and sacrificial standards affirmed and embodied by Christ. Because these are publicly revealed standards with empirically observable epistemic content in the form of commandments, covenants and promises, the truth-teller may be held accountable by the public to an agreed external standard and the quality of their hermeneutic application thereof. Therefore, the truth-teller cannot be 'self-proclaimed', but only recognised or rejected as such by the public. On this basis, truth should be as disruptive to the person of the truth-teller as to the public and to the status quo; quite the opposite of a theocratic legitimation by self-avowal. The Old Testament prophet Jeremiah furnishes a good example of this dynamic. Firstly his resistance and bewilderment at his call in Jeremiah chapter one and secondly in this description from Jeremiah 20:9 of him trying to resist the truth-telling which God has made incumbent upon him: 'If I say, "I will not mention him, or speak any more in his name," then within me there is something like a burning fire shut up in my bones; I am weary with holding it in, and I cannot'. The truth-teller therefore, in addition to understanding themselves as in submission and subordination to their creator, would circumstantially understand themselves to be a servant of those they were charged to lead, in the mode of Christ outlined. 'This means,' writes Davies,

> that the ethical act is based on a process of coming to personal judgment, in responsibility for the other, which knows that there can be no "right answer", in the midst of life's complexity, and understands that this knowledge is precisely part of what it is to act for and with another. The

> self-sacrificial aspect of our good acts lies precisely in the recognition that we cannot in principle be sure that we are not going to do something which has precisely the opposite effect for others from that which we set out to achieve. The nature of complexity is that we can only reason in it openly and reflexively, acknowledging the risks we take upon ourselves, and that this knowledge itself forms part of our self-offering for the other.[19]

On this understanding, we observe the vulnerability of the truth-teller who understands themselves specifically *not* as sovereign but as answerable and under divine authority and thereby bound as a servant to their fellow humans. The truth is something for the ethical leader to bow before, being grounded in revealed personal deity.

My argument is that – regardless of religious conviction and on ontological grounds – the contingent, secondary nature of the human being (what Bonhoeffer terms the 'penultimate') places them in the position of servant as opposed to sovereign and requires their public speech to be conducted accordingly

[19] Davies, *Theology of Transformation*, 190.

Introduction: Noology and Technics

Benoît Dillet and Anaïs Nony

Noology is the technical life of ideology. It works at the formal and technical production of knowledge, rather than focusing on the content displayed by a specific system of thought. There are two reasons why the notion of noology must play a role in today's critical and political debates. First, the concept of ideology has lost its relevance since its everyday meaning is far removed from the original meaning Karl Marx gave it; today ideology mainly means "political doctrine," right-wing, left-wing, or the entire spectrum of shades between the two. Expressions such as "an ideology" or "ideologies" are used in critical analysis, while for Marx "ideology" has always come without any pronoun. Ideology now presents itself as an "inversion of causalities producing illusions."[1] The second reason has to do with the changes in the modes of production since the 1970s, and the rise of the post-Fordist economy, or "neoliberalism." Since the 1970s, the end of ideologies has been proclaimed (epitomised by Daniel Bell). Given this context, noology critique demonstrates that the work of ideology in today's economy plays out at an infrastructural level, in social organs that materially institutionalise thought and ideas, and not simply at the level of the immaterial culture of political parties and discourses (superstructure).

The historical context of the creation of the term is crucial to map out how noology re-evaluates the work of ideology critique today. The word "ideology" has a long history representative of conflicts of ideas: it was first coined by Destutt de Tracy in 1796 to designate a new science (science of ideas) for new pedagogical institutions, but the meaning was inverted in Marx's early writings. Marx borrowed Napoleon's own "becoming-pejorative" of the term when Napoleon

[1] Bernard Stiegler, *La Pharmacologie du Front National* (Paris: Flammarion, 2013), 183.

accused the Ideologues of elitism.[2] Given the vacillations and the ambivalence of the signification of this word, Deleuze and Guattari decided to discard the term and use a new one: noology. Although Immanuel Kant and other Enlightenment philosophers used the term "noology," it is Karl Mannheim in *Ideology and Utopia* (1936) who employed it in relation to "ideology." Mannheim used the term noology, after Kant, to distinguish between two conceptions of ideology: the first one, the most common, is the *psychological* or *particular conception* that looks at the content of the ideologies, while the *noological* or *total conception* is interested in the form.[3] Therefore when Deleuze and Guattari introduced their own notion of "noology," they had inadvertently drawn from Mannheim's original definition of noology.[4] They proposed this notion to rethink ideology critique after the mutilation of the concept of ideology, but also to overcome the impasses of a critique that had run out of steam in the face of new political and economical challenges.

Specifically, for Deleuze and Guattari, noology examines the problem of ideology by bypassing the frontiers of political parties and dogmatism, to diagnose knowledge and thought in contemporary society. Their definition of noology is the study of images of thought and their historicity.[5] As we discuss in this introduction, the singularity of "noology critique" resides in its attempt to tackle the political and economic situation that shapes the condition of knowledge formation. Such critique calls for an approach that is receptive to the myriad of distributed networks that structure our daily life: here it becomes less about the movement of thought and more about an understanding of the forces that ground its possibility. Thinking always takes place within a model of thought, and this model of thought is co-produced in an associated milieu in which technical objects and vital agents interact. In such a context, and given the ongoing technological changes now shaping our environment, technical objects provide

[2] Pierre Macherey, *Études de Philosophie "Francaise": De Sieyès à Barni* (Paris: Publications de la Sorbonne, 2013), 63-109.
[3] Karl Mannheim, *Ideology and Utopia* (London: Routledge, 1936), 57-62.
[4] Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 376, 499-500.
[5] *Ibid*.

more than ever the conditions for the emergence of operations of thought. These objects are co-imbricated, giving form to a distributed framework within which new forms and expressions of thought arise, thus working as an a priori condition for accessing thought-contents. A noology critique therefore asks: in which material and infrastructural assemblage does thought operate?

Although noology critique depends heavily on the theoretical background launched by ideology, it calls for the re-evaluation of concepts newly challenged by the development of digital technologies and the emergence of the Big Data industry. When referring to the digital economy, journalists and academics alike are too quick at thinking the "immateriality" of the economy. On the contrary, noology critique attempts to rethink a materialist critique of the digital economy, tracing the material processes at play (noology) and exposing the empty promises of neoliberal capitalism (ideology). In a world in which a primary economic horizon is the expansion of commercial strategies onto social governance, a noology critique has become necessary to map out the newly engendered operations that structure knowledge production.

Digital and Behavioural Economy

Based on digital computing technology, the digital economy sees the development of networking organization (e-business and e-commerce) and communication infrastructures (such as new media). Companies such as Uber, eBay, and Airbnb have developed "consumer-to-consumer e-commerce,"[6] using predatory practices that operate at the border of legality/illegality, constantly challenging this limit. What is now called the "uberisation" of the economy is an attempt to grasp these newly engendered transformations that are taking place where mass, material, and transports are replaced by instant global movements. Such a shift towards virtual and weightless transactions has left the door open to the recent explosion of the "sharing/trading" economy. Other online companies such as Amazon, Pandora, and Netflix have created "business-to-consumer e-commerce" and

[6] Carin Holroyd and Kenneth Coates, *The Global Digital Economy: A Comparative Policy Analysis* (New York: Cambria Press, 2015).

developed platforms that give recommendations by calculating the correlation of similar behaviours. In doing so, this correlation assists the consumer in making her choice by telling what people like her have previously enjoyed. Marketing strategies trap users by applying self-filtering features to predetermine their selections, leading to the emergence of what Nicholas Negroponte calls the "Daily Me," that is media output customized for individual tastes.[7]

The sealing of taste that discriminates information is deployed within the realm of digital economy and infiltrates all domains of communication, allowing for the development of self-selected threads that confine users to access matching datasets. The selection of information operates according to digital parameters that segregate users into consumerist groups whose opinions and tastes are run by mathematical formulas. In this context, the digital economy gives shape to an ideology of big data that accumulates information to better restrain the user's profiled behaviour. The latter performs according to its digital double, whose shadow precedes and sometime replaces its own. While certain scholars may have argued for the internet as the locus of democracy, political theorist Jodi Dean points to the neoliberal modes of operation at play in the digital realm. She calls "communicative capitalism" an example of such exacerbation via the Web of psychotic politics that has transformed collective actions into self-expression. Dean tackles the strange convergence of democracy and capitalism in the networked media and entertainment industries, revealing the commodification of expression as a major component of today's globalised neoliberalism.[8]

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[7] Nicholas Negroponte, *Being Digital* (New York: Alfred A. Knopf. 1995).

[8] In her work, Jodi Dean, following Slavoj Žižek, upgrades the Lacanian-Marxist definition of ideology critique to offer the concept of "communicative capitalism" that addresses the new ideological formation which merges politics into economy in the digital age. See Jodi Dean, *Blog Theory* (Cambridge: Polity Press, 2010) and Jodi Dean, *Democracy and Other Neoliberal Fantasies: Communicative Capitalism and Left Politics* (Durham: Duke University Press, 2009). Both authors seem to remain at the level of belief that doubles the action performed, while ideology is precisely the environment in which beliefs, desires and dreams are controlled within a technological dispositif. Thoughts are technically conditioned, and ideology critique starts with narrating and dreaming…

Data-mining is a tool employed to foster the realm of preconceived behaviours. Such operations are based on the predictive analysis of data for the assessment of an oriented future, which generates information that inherently depends upon probabilistic analysis. Computational and networked digital media have given rise to a behavioural economy made of signals that seeks the production of particular forms of subjectivity. At stake in such a context is the translation of social and cultural practices into mechanically and programmatically generated behaviour. Such programmability is a response to and a product of the continuing change in relations between objects and subjects that is brought about by computing as a neoliberal form of governmentality. For Wendy Chun, the programmability of social behaviour resuscitates dreams of sovereign power and depends upon the incorporation of "historical programming hierarchies within the machine." [9] In this context, computers structure individuals' behaviour to be determined by the fulfilment of certain desires that imperceptibly and yet materially support a larger system, thus becoming the most powerful tool of neoliberal management.

The media technics of data-mining applies a prospective model to dig out specific information and instrumentalises time through the development of probabilities. In their respective works on the preemptive power of new media technology, Brian Massumi and Mark Hansen respectively point to the temporal instrumentalisation of time in today's algorithmic modes of data surveillance and pre-crime policy. Working on post-9/11 American foreign policy and its logic of imminent threat, Massumi points out the effective rather than causal operative logic of preemption where the virtual power of futurity is employed to quasi-causally affect the present. [10] For Hansen, the "premediation" of future events prior to their occurrence—as exemplified in *Minority Report*—operates at the level of ideology. To him, it is urgent to distinguish between "the future-implicating causal efficacy of the real *and* the premediation of how that efficacy might

[9] Wendy Chun, *Programmed Vision: Software and Memory* (Cambridge: MIT Press, 2011), 34.

[10] Brian Massumi, "Potential Politics and the Primacy of Preemption," *Theory & Event* 10, (2007): para 23, http://muse.jhu.edu/journals/theory_and_event/v010/10.2massumi.html

produce the future."[11] The latter is a representation that is designed to immunise the possibility of the improbable. In this case, both the logic of preemptive power and premeditation are deployed as ontological problems: problems that question how to relate to what has not yet emerged in the present and which nevertheless constitute a future threat.

For Antoinette Rouvroy, such techniques of "prediction" aim to remove uncertainty, doubt, and hesitation by analysing large datasets. Rouvroy understands this change toward prediction as a "passage from the deductive logic to a purely inductive logic."[12] Rouvroy develops the notion of "algorithmic governmentality" to update Michel Foucault's concept of governmentality in the age of digital media. The aim of the Big Data ideology, she explains, is to remove uncertainty but also "recalcitrance."[13] Individuals, by becoming dividuals, are also becoming "quantified sel[ves]": since all their data are considered potentially useful, everything should be recorded and kept for future potential uses.[14] The promise of the Big Data ideology is therefore a "passion for the real": we can finally know the distances we walk, the calories we eat, the hours we sleep without any interference and friction. We have a direct access to new functionalities: what seemed previously incalculable is now beeing calculated for us, only at the cost of our voluntary donation of data, a new kind of voluntary servitude. What was incalculable, improbable and often abstract, such as desires and dreams, is now calculated and processed by these online services using sophisticated algorithms. In algorithmic governmentality, our expectations take into account the results from these online services about our possible future experiences (the colour of the food from that restaurant, the music from bands playing at that gig, etc.).

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[11] Mark B. N. Hansen, "Our Predictive Condition; Or, Prediction in the Wild," in *The Nonhuman Turn*, ed. Richard Grusin (Minneapolis: University of Minnesota Press, 2015), 132.

[12] Antoinette Rouvroy and Bernard Stiegler, "Le Régime de Vérité Numérique: De la Gouvernementalité Algorithmique à un Nouvel État de Droit," *Socio* 4 (2015): §11.

[13] *Ibid*., §15, §17-18, §72-73.

[14] *Ibid*., §14.

In her critique of the Big Data ideology, Rouvroy at times remains at the level of ideology (understood as discourse or message), and she narrates the promises of algorithmic governmentality instead of following the technical life of ideology and tracking down its inscription in the very machines and infrastructure of governmentality. It is surely because it is fun and more efficient to use algorithms to navigate oneself in the city rather than to use a paper map, but such promises are not independent from their material production and organisation (through advertisements, the consumption of lifestyles, the aestheticisation of life, etc.). The critique of algorithmic governmentality focuses on the implementation and adoption of these services in everyday habits: it is our very faculties of understanding and interpretation that are being altered. In the process of "data-mining," there is an attempt to reduce persons and identity to data and therefore flows that are more easily transferable and comparable "in the search for the absolute objectivity."[15] Because of the promises that these new online services, made by companies such as Google, Apple, Facebook, Amazon, there is a fetishisation of data and therefore of the real, together with a relegation of friction and "noise" that slows down the process.

Zones of Nonknowledge and the Noology Critique to Come

The pervasive aspect of digital tools such as project-planning methods and data-mining technologies, calls for an attention to "opaque zones of nonknowledge".[16] Such zones have a material construction that operates as part of an ecology of media forms that are crucial for understanding the role digital technologies play in shaping new dynamics of power and control. The infiltration of automatically run devices that have the capacity to operate outside the realm of human sensory-motor capacity can not only change the dynamics of human behaviour, but also operates as a "submedial" level to compromise the possibility of thought.[17] In 2008, the former editor-in-chief of the

[15] *Ibid*., §6.

[16] Matthew Fuller and Andrew Goffey, *Evil Media* (Cambridge, MA: MIT Press, 2012), 4.

[17] By submedial, we refer to the work of Boris Groys who thoughtfully underscored the infrastructural level at which new media technologies operate. To him, "media ontology

Wired magazine Chris Anderson claimed that the emergence of Big Data has led to the obsolescence of theories and critiques, that by amassing large dataset machines we would be able to find correlations, thus hijacking the need for intellectual labour.[18] While such a claim operates at the level of a premeditative ideology, it questions the obsolescence of theoretical thinking that comes with the introduction of prospective data-mining and predictive analysis. However, what is intrinsically new in today's algorithmic mode of knowledge transaction is, as Katherine Hayles points out, "the extent to which the built environment instantiates nonconscious cognition."[19] The exponential effects of devices on human systems is explained by the a general trend that sees communication flow more and more "among intelligent devices, and relatively less among devices and humans."[20]

The call to the return of the "real" as well as the obsolescence of theory and complexity are hardly new, yet with the deluge of services using algorithms in the digital economy, ideology has become even harder to discern, and therefore to be subject to critique. We are not calling for the return to a time before Big Data and these online services, one would be naïve to think that such a return is possible; however the point is to diagnose these systems and prescribe practices of how to live with them. It is not a matter of opposing them but of composing with them. Building on our earlier points about Anderson's end-of-theory thesis and the increasing place algorithmic services take in our lives, we can now argue for the necessity of a noology critique to come. Noology critique does not adopt a position of exteriority or one of truth, but it is an immanent critique of the wiring of thought in society. "Critique" here is not a negative evaluation of noology, but an evaluation and an examination of the production of knowledge in the

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seeks to know what is hiding behind medial signs—precisely in cases where these signs, much like their sign carriers, are not 'natural' but 'artificial'." Boris Groys, *Under Suspicion: A Phenomenology of Media*, trans. Carsten Strahausen (New York: Columbia University Press, 2000), 12.

[18] Chris Anderson, "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete," *Wired*, June 23, 2008, available: <http://archive.wired.com/science/discoveries/magazine/16-07/pb_theory>

[19] Katherine Hayles, "Cognition Everywhere: The Rise of the Cognitive Nonconscious and the Cost of Consciousness," *New Literary History* 45 (2014): 221.

[20] *Ibid*.

digital age. It is true that we live in a post-ideological world, or at least this expression "post-ideological" explains that it has become harder to notice ideology, since it has re-materialised, it is everywhere and therefore for some it appears as nowhere. But ideology understood as noology is not false belief, like religion for instance, but the technical infrastructures that very much forbid us to think and to believe.

Noology is the ideology that has become integrated into the flat ontology of capitalism. The advantage of considering ideology from the perspective of noology is to overcome the confusion between thought-contents (beliefs, language, discourse) and thought-forms (institutions, technical devices, infrastructure).[21] It allows us to flatten ideology and to develop a new critique and a new negativity at the level of the flat ontology of capitalism. The government by things of both humans and non-humans leads to a situation where discourse is discredited, and ideology no longer exists. Ideology has become neutralised by the permanent innovation that short-circuits all social organisations. The only discourses possible are those produced by the human-technical object transductive relations. This government by norms (what Foucault called the "society of norms") and by things neutralises critique since they pretend to be accurate and exact. The example of algorithms is only the last avatar of this mechanism at work in post-ideological or noological societies: depoliticising societies.[22] In the *Ideologiekritik* tradition (Feuerbach, Marx, Engels, Lukács, and the early Frankfurt School), the task of philosophy was to overcome metaphysical or idealist strands to ground a materialist philosophy; the famous opposition between ideology/science. What is new, however, is the re-materialisation of society and everyday practices since the 1970s. Noology critique, therefore, does not pose a materialism against an idealism but a materialism against a materialism, a kind of "materialist auto-affection".

[21] For a more detailed analysis of the implications of this distinction, see Benoît Dillet, "Deleuze's Transformation of the Ideology Critique Project: Noology Critique" in *Deleuze and the Passions*, ed. Ceciel Meiborg and Sjoerd van Tuinen (New York: Punctum Books, 2016).

[22] Bernard Stiegler comments on this last point in his recent book by referring to the sociologist Laurent Thévenot. See Bernard Stiegler, *La Société Automatique* (Paris: Fayard, 2015), 185.

Noology critique attempts to map out the wiring of thought in society to avoid passively "adapting" to operations of thought that are ideologically produced. One should make the distinction for instance between real inventions and possibilities and mere marketing. One can find in Simondon an early discussion and critique of marketing in his concept of "functional integration." [23] What is crucial about Simondon's discussion of functional integration is that he did not succumb to the false promises that companies propagated when selling their new products. Marketing strategies attempt to naturalise the technical object and create conditions for the "adoption" of the technical object. Marketing is the practice of weaving ideology technically; it creates the noological fabric of our lives. Digital studies is an incredibly fast growing interdisciplinary research field; however the novelty and newness about this field of inquiry is either assumed, fetishised or denounced. The articles here attempt to contribute to this body of literature by discussing a topic that is often forgotten in this field: the question of ideology.

The following articles are taken from presentations given at the 2015 London Conference in Critical Thought (hosted by the Anthropology department at UCL). These are only a selection of a larger set of discussions that took place on the themes of noology and technics. During the panels, the participants reflected on the notions of "noology" and "nootechnics" (or techniques of thought) as a way to think critically about our modes of thinking in the digital economy. These presentations and articles were conceived as the result of a first set of discussions among the members of the Noötechnics collective. *Noötechnics* is an international collective founded in 2012 whose goal is to organize events and publication projects that foster debates concerning the socio-political effects of digital technology.

Paolo Vignola presents a symptomatology of digital nihilism, and takes Anderson's emblematic statements from his 2008 *Wired* article as a symptom rather than a cause of our present condition. Vignola diagnoses the recent writings on accelerationism and their interpretation of Deleuze and Guattari as a symptom of a collective disease. To the lack of the collective dimension, the accelerationists develop a new narrative for the Left. By following Franco "Bifo"

[23] Stiegler, *La Société Automatique*, 151-7.

Berardi, Vignola questions the decay of the techno-social body that accompanies the intensification of capitalist technological innovation. Accelerationists not only do not take into account the 'reactive forces' at work in algorithmic governmentality, but also the reterritorialising powers intrinsic to life. In reading Nietzsche through Deleuze, Stiegler and Rouvroy, Vignola defines digital nihilism as the data-based *immentisation* of ascetic ideals, in which every kind of critical narrative is erased. Accelerationism is too quick in its project of inventing a new future and does not take into account the organological project of studying the transductive relations between individual, technical and social organs.

Leading on from these first reflections about speed and cognition, Sara Baranzoni in her article questions the aesthetic and an-aesthetic defunctionalisation and re-functionalisation operated by new technologies today. She argues that Big data and automatised computation force us to think again the old (Kantian) issue of the condition of possibility of perception and sensibility. She develops a powerful update to the classic application of ideology critique to the aesthetic field and aesthetic attitude. To her, Stiegler's reading of Kant's notion of schematism as "monstruous schematism" is an indispensable conceptual tool to understand what happens to our sensibility and perception in 24/7 capitalism. Baranzoni extends and updates Stiegler's remarks about the proletarianisation of sensibility in his *Symbolic Misery* series. Technology redefines and re-organises human capacities since digital objects and environments function to map some basic sensibilities to convey desires, decisions and behaviours, but at the risk of 'shutting down' the process of subjective individuation and the development of the faculties of reasoning.

After speed and aesthetics, Alexander Wilson also discusses the noology of Big Data from the point of view of the energy that needs to be mobilised to store data, but also to run the correlations in extremely large data sets. Big Data is the horizon of knowledge as an exhaustion of the process of discretisation. According to Wilson, the question of knowledge needs to be posed in relation to thermodynamics: "knowledge and technology are bound to the question of hot and cold". Wilson discusses the role of cognition and perception in discerning the thermodynamic thresholds. Processes of discretisation which abstract forms into discrete units — these discrete

units are either literal, or analogic or digital — in order to use them in larger systems, are fundamentally entropic, leading to global warming. Wilson's problem is therefore to think negentropy thermodynamically in information systems as an extension to the organism's abilities to discern differences in the age of the Anthropocene.

Symptoms and Speed of νοῦς: Toward a Critical Invention of the Future

Paolo Vignola

In their *Manifesto for an Accelerationist Politics* Alex Williams and Nick Srnicek suggest that one of the main contemporary issues for a politics of subjectivity could be synthesised by updating the famous Deleuzian-Spinozian question from "what can a body do?" to the question of "what can a modern technosocial body do?" [1] This question could provide both an updating of the ethics of immanence and a new image of a leftist political narrative, indicating a Promethean dimension of politics based on two main assumptions that lead to an immanentist form of an emancipatory and even revolutionary process within capitalism. Specifically, the *Manifesto* claims that capitalism at the same time unleashes and represses technological development, as well as the social, cognitive, and productive capacities that grow through it: "Accelerationism is the basic belief that these capacities can and should be let loose by moving beyond the limitations imposed by capitalist society."[2] Hence by acceleration is implied a full deployment of the tendencies developed within the present forms of capitalistic production.

According to both Toni Negri[3] and Franco "Bifo" Berardi[4] one can synthesise the two assumptions lying behind accelerationism: the first assumption is that to accelerate production cycles would make capitalism unstable and would lead it to lose control over innovation; the second one claims that the emancipatory potentialities contained

[1] Alex Williams and Nick Srnicek, "Manifesto for an Accelerationist Politics," in *#Accelerate: The Accelerationist Reader*, ed. Armen Avanessian and Robin Mackay (London: Urbanomic, 2014), 355–356.
[2] *Ibid.*, 361.
[3] See Toni Negri, "Some Reflections about #Accelerate Manifesto," in *Ibid.*, 363–378.
[4] Franco "Bifo" Berardi, "Accelerationism Questioned from the Point of View of the Body," *e-flux journal*, Vol. 46, June 2013, <http://www.e-flux.com/journal/accelerationism-questioned-from-the-point-of-view-of-the-body/> (last accessed 16th October 2015).

in the capitalist form would *necessarily* deploy themselves towards a communist means of production and way of life.

Criticising these assumptions with the help of what I characterise as Bifo's symptomatology, I do not want to completely annihilate the emancipatory narrative offered by Williams and Srnicek. Rather, I attempt here to describe some symptoms of the collective disease. This disease in turn calls for a necessary bifurcation from the current stage of capitalism. In other words, the symptoms of such disease indicate the suffering and even the "lack" of the collective dimension, and hence the need to develop new narratives. These narratives suggest that what must be accelerated is the process of critique—and thus the development of the *nous* as critical thinking—rather than merely the process of innovation or technological evolution.

A brief symptomatology of capitalistic acceleration

With regard to the first accelerationist assumption, Bifo argues that it is impossible to make capitalism unstable, and thus to overcome it, by accelerating technological evolution, precisely because of its ability to empower itself from every kind of shock.[5] Furthermore, its most recent stage consists in an automatic governance, which has replaced rational government with the mere concatenation of algorithms "running at blinding speed."[6] For this reason, "acceleration is destroying social subjectivity, as the latter is based on the rhythm of bodily desire, which cannot be accelerated beyond the point of spasm," as suggested by Guattari in *Chaosmosis*.[7]

In relation to the second assumption, according to Bifo, Williams and Srnicek underestimate the obstacles that block and divert the process of subjectivation. For him the *Manifesto* seems to ignore the symptoms of both the proletarianisation of cognitive workers with respect to their knowledge[8] and what has been called the

[5] See Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism* (New York: Metropolitan, 2008).
[6] Berardi, "Accelerationism Questioned from the Point of View of the Body."
[7] *Ibid.*
[8] See Bernard Stiegler, *La société automatique I. L'avenir du travail* (Paris: Fayard, 2015).

psychopathologies of cognitive capitalism.[9] As we will see, these symptoms speak to the failure of collective individuation as social and political project:

> The immanence of the liberatory form […] implies the *possibility* of this deployment, but does not imply the necessity of it. […] This possibility, indeed, can be hindered and diverted by the cultural and psychological forms of subjective existence. [… T]he process of autonomous subjectivation is jeopardized by chaotic acceleration, and social subjectivity is captured and subjugated by capitalist governance.[10]

Bifo is aware of the "accelerationist" instance expressed by Deleuze and Guattari in *Anti-Oedipus*, when in relation to the movement of the market, a movement of decoding and deterritorialisation, they affirm that the question is not to "withdraw from the process, but to go further, to 'accelerate the process,' as Nietzsche put it."[11] Yet Bifo shows that, in *What is Philosophy?*, Deleuze and Guattari seem to have already deconstructed their own accelerationist passage when they claim that "[w]e require just a little order to protect us from chaos."[12]

> If we investigate acceleration from the point of view of sensibility and the desiring body, we see that chaos is the painful perception of speed, and acceleration is the chaotic factor leading to the spasm that Guattari speaks about in *Chaosmosis*. Acceleration is one of the features of capitalist subjugation. [I]t generates panic before finally destroying any possible form of autonomous subjectivation.[13]

This last statement by Deleuze and Guattari, on which Bifo comments, comes from a self-critique of their own rhetoric of desire, by which they became aware of the new processes of modulation of

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[9] See Franco "Bifo" Berardi, *The Soul at Work*, trans. Francesca Cadel and Giuseppina Mecchia (Cambridge: Semiotext(e)/MIT Press, 2009), 102–103.
[10] Berardi, "Accelerationism Questioned from the Point of View of the Body."
[11] Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem, and Helen R. Lane (New York: Penguin, 1977), 239.
[12] Gilles Deleuze and Félix Guattari, *What is Philosophy?*, trans. Graham Burchell and Hugh Tomlinson (New York: Verso, 1994), 201.
[12] Berardi, "Accelerationism Questioned from the Point of View of the Body".

the brain and soul installed by neoliberalism.[14] Some years later Lazzarato would refer to "noopolitics" as this new activity of capitalism diagnosed by Deleuze in his *Postscript*, meaning the ensemble of the techniques of control exercised on the brain, involving above all attention, desire, memory and protentions.[15] This kind of control aims today, even more than in the 1990s, to neutralise difference, reduce the power of critical bifurcation, and eradicate any possibility of variation, unpredictability, action and behaviour. The modulation of subjectivity, which was the main stake of Deleuze's *Postscript*, is becoming a neuro-modulation. Therefore, before developing a Promethean politics of subjectivity, it is worth diagnosing the effects of so-called "neuropower," as Warren Neidich emphasises:

> Sovereignty has insinuated its own extended cognitive apparatuses as epistemological agents and trajectories into the cultural habitus in order to call out to the multiplicity. This shift, delineated by a change of focus from the body to the brain and mind […] is described as neuropower.[16]

Hence the question of "what can a technosocial body do?" seems to acquire a dystopian accent, especially if we consider that, according to Neidich, "neuropower concerns the production of people in the future. What they 'could' become."[17] From this point of view it is legitimate to ask, "Who really has the power to accelerate the process?", and which process, or better which processes? The problem of neuropower is indeed tied to the very process of thought, much like the process of levelling put forward by Nietzsche in his diagnosis of the social manifestation of nihilism. By following the Nietzschean suggestion of accelerating as referred to by Deleuze and Guattari, the hypothesis of this article is that to generalise noopolitics would lead us

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[14] See Gilles Deleuze, "Postscript on the Societies of Control," *October* 59 (1992), 3–7; Félix Guattari, *Chaosmosis: an Ethico-Aesthetic Paradigm*, trans. Paul Bains and Julian Pefanis (Bloomington and Indianapolis: Indiana University Press, 1995).

[15] Maurizio Lazzarato, "The Concepts of Life and the Living in the Societies of Control," in *Deleuze and the Social*, ed. Martin Fuglsang and Bent Meier Sorensen (Edinburgh: Edinburgh University Press, 2006), 186.

[16] Warren Neidich, "From Noopower to NeuroPower: How Mind Becomes Matter," in *Cognitive Architecture. From Biopolitics to Noopolitics. Architecture & Mind in the Age of Communication and Information*, ed. Warren Neidich and Daniel Hauptman (Rotterdam: 010Publishers), 540.

[17] *Ibid.,* 550.

just to the fulfilment of nihilistic levelling. This seems evident if one agrees with the notion that, just as neoliberal global capitalism is annihilating biodiversity via pollution and the encroachment of habitat, so too cognitive capitalism, as a subset of the former, is accelerating the homogenisation of the cultural field with all the means allowed by neuro- and techno-science and political institutions. These are the two sides of what is called the Anthropocene, probably the best name for the 1887 Nietzschean prophecy concerning the two next centuries.[18]

Curiously, accelerationists, who converge very well with the Anthropocene and cognitive capitalism, seem to still have kept a very Fordist image of subjectivity, with little relation either to algorithmic governmentality or to noopolitics, psychopower, neuropower, or in general to the real subsumption of life. Hence what they propose is an accelerationist scenario for a tendential subjectivity whose tendency no longer exists.

Nevertheless, the question about the possibility of a technosocial body still remains a real issue for ethico-political thought and thus the following paragraphs attempt to draw a critical path by which to raise these issues. To begin with, we must start from the social field in general, and in particular with the Nietzschean symptomatology that Deleuze described in *Nietzsche and Philosophy*.[19] Today this kind of symptomatology should focus on the decay of the social as the condition of possibility for "the people to come," which is, according to Deleuze, the main goal of an emancipatory politics. Indeed, we are today witnessing the degradation of the social—as a concept linked to solidarity, to enhancements of inter-generational and collective ties, and to the cooperation and construction of political projects—to its simulacrum: the "social" of digital social networking, as merely the sharing of data. Such simulacrum is producing only social atomisation, in which the dividual represents both the product and the object on which the power of control is exercised.

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18 See Friedrich Nietzsche, *Will to Power*, trans. Walter Kaufmann and H.R. Hollingdale (New York: Random, 1968), §2.

19 See Gilles Deleuze, *Nietzsche and Philosophy*, trans. Hugh Tomlinson (London: Continuum, 2002).

The fulfilment of nihilism

According to Rouvroy, algorithmic governmentality is the power of anticipating, formatting, and selecting via algorithms the future actions of individuals, through the monitoring of data and metadata from their "profiles." This kind of governmentality, which synchronises and modulates profiles and preferences, does not allow for the development of subjectivation essentially because it does not consider subjects as concrete agents with deep and complex reasons for their actions: "the only 'subject' algorithmic governmentality needs is a unique, supra-individual, constantly reconfigured 'statistical body' [that] carries a kind of 'memory of the future'"[20] in order to ensure a precise behaviour, both for consumption, for labour and for social security. From an ethical and political point of view, what should be highlighted is that "algorithmic government frames the future, [...] deprives human beings of their fundamental potency, which is their capacity to emerge as individual and collective subjects."[21]

Hence, rather than being an active subject, with his or her own will and desires, the individual shaped by this governmentality is purely adaptive to data-driven behaviour. This is so because algorithmic governmentality does not consider subjects as such, but treats them as aggregates of infra-personal data, who are no longer individuals but dividuals.[22] What Rouvroy calls 'data behaviourism,'[23] as the weapon of this governmentality, separates subjects from the capabilities through which they can reach the world, and prevents them from criticising what occurs in their life. Furthermore, while for accelerationists the main issue of subjectivity today could be expressed by the formula "what can a technosocial body do?," according to Rouvroy, data behaviourism seems to be an answer, from the opposite

[20] Antoinette Rouvroy, "The end(s) of critique: data-behaviourism vs. due-process," in *Privacy, Due Process and the Computational Turn: Philosophers of Law Meet Philosophers of Technology,* ed. Mireille Hildebrandt and Ekatarin De Vries (London: Routledge, 2013), 157.
[21] *Ibid.,* 152.
[22] Deleuze and Guattari's concept of 'dividual' describes the result of a process of digital codification of social and affective life within societies of control, by which the individuals become nothing but indexable entities.
[23] Rouvroy, "The end(s) of critique: data-behaviourism vs. due-process," 149: "I will call 'data behaviourism' this new way of producing knowledge about future preferences, attitudes, behaviours or events without considering the subject's psychological motivations, speeches or narratives, but rather relying on *data*."

side—the side that does not care about subjectivity at all—to another, more pragmatic question: "what could a body do?". This means that, with its anticipative evaluations of infra-personal data, algorithmic governmentality pre-configures the future of bodies, i.e. individuals, tailoring them on the basis of their profiles, a tendency that bypasses the wishes and affects of their living present.

From a Deleuzian point of view, one could diagnose two signs or symptoms of nihilism. First, just like Nietzschean reactive forces, the 'force' of algorithmic government essentially consists in separating subjects from their ability to do or not do certain things—and so in separating subjects from their capacities of willing and of behaving in an active way, that is to say, of individuating themselves.

Second, taking this diagnosis further, one can refer to how ascetic ideals, i.e. the will to nothingness, are actualised by reactive forces "by which life *must* contradict itself, deny itself, annihilate itself."[24] In other words, one could see the rise of a kind of digital nihilism as a de-valuation of the living will and of all living values. Actually, if digital ascetic ideals realise themselves *within* this life and no longer in a life beyond, they are no longer transcendent: they instead become immanent. We should thus consider the relationships between reactive-destructive forces and active-productive forces as a continuing struggle within the immanence of modes of production and everyday life. This essentially means that the same subjects have to struggle not only against the "spectacle of Capital" in Debord's sense, and therefore to act in a sort of super-egoic dimension, but also and more importantly against the annihilation of every political protention whose causes can be reached in the more and more automatised behaviour of these same individuals, algorithmically modulated and re-shaped in order to be governed. It is only by considering these two tendencies—the reactive forces and the immanentised ascetic ideals—as the symptoms of a nihilistic dimension affecting political and imaginary protentions that it is possible to conceive the disruption linked to machinic subjectivity, and hence to ask: "what can a technosocial body do?".

24 Deleuze, *Nietzsche and Philosophy*, 145.

At this point it is necessary to clarify how symptomatology could be a socio-philosophical tool. If, as indicated, Nietzsche's symptomatology offers a way of responding to the accelerationist question of the technosocial body, this is because it allows us to consider all kinds of social phenomena as symptoms reflecting states of forces. Symptomatology leads us to "ask, for any given thing, what state of exterior and interior forces it presupposes."[25] Forces and their relationships can be discovered behind every analysis, following a symptomatology that "interprets phenomena, treating them as symptoms whose sense must be sought in the forces that produce them."[26]

Furthermore, and putting this methodology in relation to what has been called above the immanentisation of ascetic ideals within algorithmic governmentality, it is worth emphasising that Deleuze argued that "any given concept, feeling or belief will be treated as symptoms of a will that wills something."[27] Thus, when the will of the citizen, who has become the digital user, is pre-empted by data behaviourism, this very will can even will nothing, collapsing into its previous gestures, which have already been traced and calculated for its future, drive-based behaviour. Discovering the will to nothingness behind data behaviourism and this kind of governmentality represents a way to further analyse the state of fact that the *Manifesto* describes as "symptomatic" of our age:

> The future needs to be constructed. It has been demolished by neoliberal capitalism and reduced to a cut-price promise of greater inequality, conflict, and chaos. This collapse in the idea of the future is symptomatic of the regressive historical status of our age, rather than, as cynics across the political spectrum would have us believe, a sign of sceptical maturity.[28]

Even if we can but agree with this valuable diagnosis, the claim that the collapse of the idea of the future is symptomatic of the regressive status of our age should be the point of departure for a critical thought that takes care of what happens to subjectivity, not the

25 *Ibid.,* x.
26 *Ibid.,* 75.
27 *Ibid.,* 78.
28 Williams and Srnicek, "Manifesto for an Accelerationist Politics," 362.

final statement of a Manifesto of a Promethean subjectivity. Finally, what is missed in this uncritical view of acceleration is the subject's capacity to speak and construct narratives starting from his/her own symptoms.

Noology and organology

According to Deleuze, 'Noology' is the study of the images of thought historically wired into society in order to organise its life. This process of social embodiment of the images of thought being always mediated, if not led, by machines and devices that are able to give form to the relations of production, then it therefore seems right to apply noology within the phenomenon described above as algorithmic governmentality, and more generally within digital political economy. If today algorithms *predict* behavioural responses, and more dangerously for criticism, *pre-empt* the *nous* by controlling wishes, desires, and citizens' attention, what is unthought by the *Manifesto* then is precisely the image of thought as it is contained in the acceleration process, and which is too quickly associated with emancipation. Following Bifo's, Rouvroy's, and Stiegler's diagnoses of this new kind of governmentality, we should take the Nietzschean argument seriously—which accelerationism seems to prove correct—that the spasm diagnosed by Guattari, as well as the systematic carelessness of the subject (Rouvroy), and the dividuation of the social (Stiegler)[29] are all symptoms of the fulfilment of nihilism.

In short, we need an image of thought able both to *diagnose* the disease afflicting critical thinking created by digital political economy, and to *invent* new relations of production. In other words, we should seek an image of thought that could keep the emancipatory promise while simultaneously recognising the weaknesses of our political subjectivity. A first step towards this goal could be undertaken by combining a noological approach and an organological one, as Stiegler has sketched out.[30] This will offer a new image of thought for a philosophy engaged in taking care of social symptoms by denouncing

[29] Stiegler, *La société automatique I,* 234.

[30] See Bernard Stiegler, *Lost Spirit of Capitalism: Distrust and Disbelief 3*, trans. Daniel Ross (Cambridge: Polity, 2014), 45.

the toxic and poisonous effects of consumerism, cultural industries, and the global synchronisation of consciousness. Furthermore, Stiegler's general organology, as the study of how tools, forms of knowledge, bodies, minds and social organisations are interrelated and co-individuate with one another, seems already strictly related to noology both in a productive and in a clinical way.

This relation is productive because according to Stiegler one can affirm that every image of thought is always already a result of a co-individuation of organs, whether they are technical, physiological or social organisations. Nevertheless, it is a clinical relation because a critique of such an image would imply a diagnosis of the health of these organs. The latter can refer only to the health of the co-individuation of the three kinds of organs that together comprise a process involving every aspect of social life, while organological illness brings society to its crises, which in their turn accompany the blockage of psycho-social and technical individuation processes. Organological illness is what seems to be ignored by a large part of socio-political thought, and by accelerationists as well, who underestimate the social and political symptoms of disease arising from the co-individuation of these organs. When processes of individuation and co-individuation are blocked, so too the processes of normativity in place in the whole of society, in Canguilhem's sense, are arrested.[31] The result is that the creation of any kind of new social form or subjectivity becomes generally impossible. Only in relation to these processes, and not to some abstract process of technical evolution, should we evaluate the question of whether and in what ways acceleration is worthwhile or dangerous.

In conclusion, it should be underlined that to conduct an organological critique of accelerationist rhetoric is not to stigmatise technological evolution as such, since according to Stiegler every technology is a kind of *pharmakon*, simultaneously a poison and a remedy for the very political subjectivity that is at stake in the Manifesto. If "poison" means that critical thought must pay attention to the toxic effects of technological innovation, especially within neoliberal economy, to consider technology as a remedy would be

[31] Georges Canguilhem, *On the Normal and the Pathological*, trans. Carolyn R. Fawcett (Dordrecht: Reidel, 1978), 145–170.

instead to attempt to create a new image of thought within the very process of technological evolution. In order to do so, politics needs to transform the symptoms of social disease into new paths of social and technological experimentation. In this sense, just as Deleuze's concept of the "people to come" is described as the ultimate goal of literature as a mission of health, so too the symptomatological perspective of taking care of the co-individuation of organs can suggest a new, pharmacological idea of the "social", according to which noology would be essentially tied to technology.

Algorithmic and Machinic An-Aestheticism: Mediation between defunctionalisation and enhancement

Sara Baranzoni

> Industry has deprived the individual of his function. The primary service that industry brings to the client is to schematize everything for him. According to Kant, a secret mechanism is at work in the mind, already equipped with immediate data that are adapted to the system of Pure Reason. Today, this secret has been deciphered.
>
> —Adorno and Horkheimer, *Dialectic of Enlightenment*

> There is a continuous spectrum that connects aesthetics to technics.
>
> —Simondon, *On Techno-aesthetics*

1.

To understand the epistemic changes fostered by the society of ubiquitous computing and the data economy we must take into account one of the most powerful media transformations to have occurred in the 21st century thus far. Today individuals find themselves merged into highly connected environments, linking not only people, but also objects, media and, of course, data: this, coupled with the seemingly infinite availability and possibility of correlating digital information, has contributed to the creation of a new 'image of thought' (noology), one that often seems can be elaborated even without the intervention and interpretation of any human actor. Like an ideology of 'immediate truth', it seems to respond to the widespread demand for an absolute objectivity that machines alone can provide, bypassing empirical experiments and giving the

impression that the uncertainty of subjective perception has been neutralised in advance.[1] Data think by themselves: they come directly from the world without requiring any mediation, and are automatically meaningful. And so, thanks to algorithmic operations that render their correlations visible and immediately available, knowledge is served and man finally relieved of the difficult tasks of interpreting and evaluating facts.

Still, there is another side of this 'image', which concerns the unexplored heuristic possibilities that data-representation, automatised computation and worldwide connection, involving technical operations to which humans lack any direct access in their daily experience, seem to inaugurate, enlarging the range of human sensibility even outside the mode of awareness.[2] The speed of data and of algorithmic correlation, along with the increasing tendency towards the technological substitution of human faculties, together feed the reliance on the promise of freeing brain-time via the automation of the phases of knowledge, becoming a sort of obsession for entrepreneurs, scientists and governments, so that, as Jonathan Crary states, "billions of dollars are spent every year researching how to reduce decision-making time, how to eliminate the useless time of reflection and contemplation. This is the form of contemporary progress—the relentless capture and control of time and experience".[3]

These visions, trapped in the eternal shifting between the absence and the increase of mediation that characterise the ideological 'rationalisation' and 'machinisation' of human subjectivity, force us reconsider an 'old' issue: the way in which the conditions of possibility of our knowledge are linked to perception and thus to sensibility, and with this, what (technical) mediation actually means. Data and computation are, indeed, today affecting (through in particular the organisation of data of sensibility) the realm of the senses, and so moulding individual and collective human experience, which is the centre of knowledge processes. But from this it does not follow that

[1] Antoinette Rouvroy, "The end(s) of critique: data-behaviourism vs. due-process", in *Privacy, Due Process and the Computational Turn. Philosophers of Law Meet Philosophers of Technology*, eds. Mireille Hildebrandt & Ekatarina De Vries (London: Routledge, 2012).
[2] See Mark B.N. Hansen, *Feed Forward. On the future of Twenty-First-Century Media* (Chicago: University of Chicago Press, 2015).
[3] Jonathan Crary, *24/7. Late Capitalism and the Ends of Sleep* (London: Verso, 2013), 54.

we can simply replace direct experience with measurable information as a way of increasing knowledge. Conversely, what needs investigation is 'the thinkable' itself, an exploration of the relation of forces involved in it – this is the spirit of noology, which we need to embrace so as not to find ourselves caught up in an ideology founded on claims of exactitude. This is our intention in the following, taking aesthetic thought and practice into account in order to think them in relation to technicity.

2.

Starting with Kant, the discourse on aesthetics[4] has always tried to connect outside and inside through the mediation of sensibility.[5] Kant's conception of imagination as the faculty capable of making coherence out of the multiplicity of sensuous intuitions, with its power to organise images into what he terms "schemata" (which can then be subsumed under categories and concepts), is well known and has long been debated. It is precisely in this light that several thinkers have wondered if schemata might in fact be arrived at by a different course, by means of an externalisation, or if it is possible via exteriorised objects to control the subject from the outside – that is, specifically, via technological objects. Bernard Stiegler made an important point in this respect, in the third volume of *Technics and Time*,[6] when he re-opened the question of *synthesis* (which creates identity from difference, that is, for him, the unity of consciousness itself) and of the schematism in the age of 'industrialised memory'. Stiegler elaborates a

[4] We use here the expanded notion of *aesthesis*, to denote, from Kant, aesthetics in its etymological sense ('sensibility'). Defined as the first condition of our openness to the world, its set of qualities and performances appear as foundational in human experience and knowledge.

[5] It would be interesting to confront the importance of Kant to Deleuze's definition of 'noology' with the way in which Kant developed his discourse just to find a way between pure empiricism and what in his times was precisely called 'noology': that is, the metaphysical theory of the cognitive functions of understanding. In particular, Kant used to call 'noologists' those who were presenting the notions of understanding as not applicable to empiric contents, but as able to offer the knowledge of things as such – indeed , for him the first noologist was Plato. See Howard Caygill, *A Kant Dictionary* (Wiley: Blackwell, 1995), 171.

[6] Bernard Stiegler, *Technics and Time 3. Cinematic Time and the Question of Malaise*, trans. Stephen Barker (Stanford: Stanford University Press, 2011)

strong critique of the analysis proposed in 1947 by Adorno and Horkheimer. Their characterisation of the 'culture industries' as short-circuiting the imagination, radically alienating and de-subjectivating what should be the freely reasoning subject, is, for Stiegler, "obviously at once lucid (if not prophetic) and erroneous (if not reactionary)", and this precisely because it stems from "a dis-oriented reading of the *Critique of Pure Reason* that is both non-problematic and a-critical".[7] Certainly, their vision of Hollywood cinema, and in general of the temporal objects produced by the cultural industries,[8] as provoking a 'spiritual catastrophe' is in a general way valid, and can in fact be extended to today's exploitation of the 'economy of perception'. For Adorno and Horkheimer, all this is organised with the sole aim of controlling the senses of everyone throughout their lifetimes and modulating them according to the interests of industrial development, so that the cultural industries would then act in order to paralyse the imagination of spectators to the point that they would no longer be able to distinguish between perception and imagination, reality and fiction. For Stiegler, however, the origin of this possibility lies not in a 'monstrous' mechanism of external schematisation introduced by cinema, but precisely in the structure of consciousness itself, inasmuch as it is thoroughly cinematographic.[9] In short: the act of recollection itself passes through the imagination, constituting a montage of memories in such a way that we can describe the imagination as the 'post-production center', produced according to the dictates of the unconscious, which would hence be the 'producer'. This activity of consciousness corresponds to its formation, which is possible only by

[7] To retrace the sense of this statement, it's worth remembering that Kant composed two slightly different versions of the *CPR*, where the role of imagination in schematization changes: first, in 1781, "the imagination seems both productive and receptive, which already suggests an ambiguity concerning the fundamental distinction between intuitions and concepts". Second, in 1787, "Kant changes the role of the imagination, in order to sustain the boundary between what we contribute to the world's intelligibility and what the world contributes, by subordinating the reproductive imagination to the functioning of the categories of the understanding". See Andrew Bowie, *Aesthetics and Subjectivity: from Kant to Nietzsche*, second edition (Manchester: Manchester University Press, 2003), 20. For Stiegler, a main misunderstanding of Kant made by Adorno and Horkheimer in *Dialectic of Enlightenment* is not having pointed out this difference, and the reason why it is introduced. See Stiegler, *Technics and Time 3*, 37ff.

[8] For Stiegler, an object is 'temporal' when its flow coincides with the stream of consciousness of which it is the object.

[9] *Ibid.*, 26.

passing through mnemotechnical systems: what is produced are temporal, diachronic (i.e. singular, different) streams, always in need of being synchronised (i.e. shared, combined), and where this synchronisation is only ever provisional. As they are produced, these streams are externalised and can be rendered reproducible via what Stiegler calls 'tertiary retention' (i.e. a support for the prosthetic exteriorisation of memory, that is, the spatialised form of a temporal object).

When the production of temporal objects becomes industrialised, the production and differentiation of diachrony is increasingly replaced by a synchronisation that is already prepared and supported by the convergence of different media products: this consists in an annihilation of the singularity of the individual, and becomes an obstacle to the very process of individuation that constitutes consciousness. The cause of this change is not an externalisation that would somehow pervert what was initially a free and unmediated consciousness, as Adorno and Horkheimer claim. On the contrary, "if there *is* an 'industrial schematism', it is because the schematics are originally, in their very structure, industrialisable: they are functions of tertiary retention; that is, of technics, technology, and today, industry".[10] In other words, what consciousness produces is for Stiegler always already re-producible: within the structure of thought, image (reproducible tertiary retention) and schema are the two faces of the same reality. The ability of the 'programming' and 'culture' industries to "schematize everything for their clients" is possible, then, only because the 'I' is already projected in external schemata through images that it assembles and selects, and to which it can and must delegate selection – something that has in fact always occurred through the authority of images of the ancestors of this 'I', allowing it to adopt these ancestral experiences, which it has not itself lived, as *its own* past.

The fault of Adorno and Horkheimer, according to Stiegler, is ultimately to consider the problem as lying in technology, hence externalisation, whereas, as he points out, the imagination is an already highly technical projection, and where it is clear that "consciousness has never been self-consciousness *other than in being projected outside*

[10] *Ibid.*, 41.

itself".[11] If the role of technics and technology in our development is not taken into account, it becomes impossible to see that "the very possibility of 'culture', and thus of 'spirit', relies on technics".[12] Hence technics cannot be considered as only a poisoning element: it is *pharmacological* – at the same time poison and remedy. For Stiegler, then, what takes place with the advent of the hyper-industrialisation of analogue, and especially digital, technologies? As mentioned, it is precisely because the time of consciousness is already externalised and materialised (spatialised), and so manipulable, storable, exchangeable, and thus saleable, that it becomes *marketable*. If the cultural industries try to operate on the time of consciousness, and to propose and substitute its own spatialisations, this provides the market with a way to exercise control over the process of projection that the individual builds through his memories. If by selecting retentions the individual produces protentions (i.e. desires for the future), then through the industrialisation of image-production the market can incite industrialised aspirations. This results in what Stiegler calls the 'proletarianisation of desire', [13] where, through the systematic exploitation of the drives of individuals, they lose their attachment to things and are expropriated from their own power to decide. Now, even if this is the result of synchronisation, which in this sense forms an obstacle to the very possibility of thinking, nevertheless it is only *within* synchronisation that the unity of a social body and its desire for a future is possible. In other words, the problem arises only when synchronisation becomes the sole tendency, rather than composed with diachronic tendencies. The same can be said for technical delegation, that is, with the tendency to prosthetisation, which is a natural component of sensibility[14] and hence not in itself problematic - even if the *quantity* and *speed* of prostheticisation certainly is problematic. Such tendencies reveal how the conditions of possibility of sensibility are not immutable but in constant co-evolution with transformations of thinking, agency and experience within surroundings that are always technological.

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[11] *Ibid.*, 77.

[12] *Ibid.*, 37.

[13] See Bernard Stiegler, *Symbolic Misery 2: The Katastrophē of the Sensible*, trans. Barnaby Norman (Cambridge: Polity Press, 2015).

[14] See also Pietro Montani, *Tecnologie della sensibilità. Estetica e immaginazione interattiva* (Milano: Cortina, 2014), 35.

3.

Currently, the need for a reconceptualisation of the relation between human being and technology within the industrial process is fundamentally involved with a multitude of new and fashionable functionalities made possible by digital and automatic society. As foreshadowed above, the massive disposability of digital data to be exploited, and the explosive growth of connection, make possible the illusion of a better quality of life, no doubt involving the 'enhancement' of personal everyday life performances, but also of the relationships with the environment and its objects. This was always the primordial promise of automatisation: to free brain and life time, thanks to a technological augmentation of human productivity and to the design of 'smart environments' capable of optimising any of the functions of living, working and sensing.

One pioneer of research on technological optimisation and 'smartification' was clearly Le Corbusier, with his functionalist concept of the 'house as a machine for living': a project simultaneously pursued and criticised by his contemporaries, for instance by Asger Jorn, who claimed that to conceive optimisation in this way is to impose a definitive idea of living-well against the "paradoxical complexity" of reality, where "truth is a complementary system of mutually contradictory truths".[15] Another of his objections concerned the 'anti-aesthetic standardisation' of this pre-ideologised world, with its rationalised, stabilised and rather tedious order. For Jorn, such structures lack any direct communication or effect on the human senses, even though it may be harmonic, functional and useful – which for a technical object are as such aesthetic qualities, as Simondon argued some years later.16

However, with the recent advent of informational and physical environments capable of sensing and adjusting to our feelings and

[15] See Asger Jorn, "Contre le Fonctionalisme" (Paris: 1957, reprinted by Éditions Allia, 2001 http://bopsecrets.org/SI/asger-jorn/functionalism.htm).

16 For Simondon, a techno-aesthetic work is perfectly functional, successful and beautiful as such: "it is technical and aesthetic at the same time: aesthetic because it's technical, and technical because it's aesthetic". Gilbert Simondon, "On techno-aesthetics", trans. Arne De Boever, *Parrhesia* 14 (2012), 1-8.

needs, or of reconfiguring them according to computational patterns that they own, these objections may seem outdated. Today, such environments are fully equipped with different possibilities: they seem to 'take care' of our lives, and to affect our ability to sense and think in a direct way.

This is possible thanks to the digitisation of any and all information about the physical world, human beings and their choices, and their transcription into automatically 'correlatable' data. With such algorithmic detection and classification of behaviour, it is now possible to fill virtually any intelligent technological object with an indefinite range of programmed options – which can in its turn be connected to a multiplicity of other objects, generating an even larger amount of 'different possible truths'. These options are becoming increasingly anticipative: the objects know the choices of a single subject so well that sometimes the choice seems to precede the subject's decision, so to speak, generating a feeling of care-fulness.

But, following the previous analysis, it is important not to forget that what is 'spatialisable' (or 'grammatisable', as Stiegler would say), even in the micro-space of digital data, consists in the form of a trace, which can be reproduced and industrialised as such, and thus commercialised or, more precisely, *controlled*. Indeed, the target of the multiplicity of devices that detect human behaviors is not the expression, nor the best performed execution, of individual intentions, but precisely what comes before, and often in a preconscious stage. With Antoinette Rouvroy, we can call this a 'performative anticipation of intentions',[17] which means that the probability of a behaviour, or of a choice, can be not only almost exactly calculated through the very precise statistical modelling of quantified data pertaining to the previous (past) behaviours/choices, but also silently *addressed* precisely through continuous anticipation. Then, the power of what constitutes an almost already perfect system of prediction is also perpetually and automatically implemented by the confluence of billions of new data, whose significance is augmented by the correlation with data of

[17] Antoinette Rouvroy and Jean-Noël Colin, "Des données et des hommes. Droits et libertés fondamentaux dans un monde de données massives" (draft), *Rapport pour la Convention 108 du Conseil d'Europe* (Strasbourg: Council of Europe, 2015), https://www.coe.int/t/dghl/standardsetting/dataprotection/TPD_documents/T-PD-BUR(2015)09_Big%20Data_17092015_DRAFT_fr%20(3%2012%202015).pdf.

'similar' producers - a correlation from which other data are produced, and so on. Even if this is claimed to be a system to reinforce security (the precise cataloguing of any possibility being the only way to exclude the unpredictable contingency of human behaviour), or as an amplifier of subjectivities, the anticipation of intentions seems more linked to a surgical control and formatting - via marketing strategies - of every dimension of life, generating, as Rouvroy and Berns call it, a situation of *algorithmic governmentality*.18

Concerning the realm of sensibility, this point is further developed by the Italian philosopher Pietro Montani in a way that conforms with the analysis proposed by Stiegler in *Technics and Time* and *Symbolic Misery*. In one of his last books, he argues that the accordance of human performance to the rules of software involves a precise economic and political strategy that he defines as "bioaesthetic". 19 For Montani, the collection, classification and exploitation of data related to sensibility not only serves the user-profiling strategy of intensive marketing, but also builds new classes of objects that can function as 'agents of standardisation', that is, that 'level' and 'anaesthetise' sensibility. These objects (or environments) are designed to contain all the items that usually stimulate a simple sensible reaction, of the kind that requires no further elaboration or interpretation and that is easily agreeable and shareable, items so hyper-aestheticised that they can be perceived by anyone with little or no effort. It is precisely the fact that such objects are built on the basis of some basic, common and automatically preferred sensibility that allows them to function as conveyers of 'desires', decisions and behaviours, all of the most elementary kind. This eliminates the possibility of giving meaning to anything other than what is already inscribed in (and prescribed by) the design of such objects.

Under the mask of a new care for the richness of human sensibility and aesthetic faculties, under the promise of augmenting the power and potentiality of human being, once again we find a tendency towards the shutdown of any subjective individuation, to the 'an-

18 Antoinette Rouvroy and Thomas Berns, "Gouvernementalité algorithmique et perspectives d'émancipation : le disparate comme condition d'individuation par la relation?", *Réseaux* 177 (2013/1), 163-196.
19 Pietro Montani, *Bioestetica. Senso comune, tecnica e arte nell'età della globalizzazione*, (Rome: Carocci, 2007).

aesthetic standardisation' of products, behaviours, and lives. This leads to what Stiegler calls 'the proletarianisation of sensibility', 20 a reduction of possibilities for thinking and a general emptiness of the sense of aesthetic experience, perverted into pure sensationalism or unelaborated sensation, ultimately ending in the obliteration of any possible new symbolic production engendered by the encounter with contingency, from which the 'consumer' is thereby 'protected'.

4.

Recently, and in particular within the field of media studies, sensibility and thought have begun to be investigated as part of a 'general ecology',21 that is, a distributed technical process, rather than in an 'anthropocentric' way. In short, this has renewed the discourse on mediation, now based on the redescription of agency and collectivity in the light of a radical technical supremacy: Mark Hansen, for instance, refers to 'environmental agency',22 claiming that "we must renounce the position of mastery we have long accorded ourselves and instead take our place within the larger environmental networks of sensibility that generate experience".23

Hansen's analysis aims to demonstrate how what he calls 'twenty-first century media' have a specific technicity that makes them go beyond their common prosthetic function: being able to operate within the microtemporal and subperceptual dimension of sensory experience, which is outside the scope of human modes of awareness (consciousness, attention, sense perception, etc.), they can process, work and edit the very sensible continuum in which experience occurs, applying to sensibility a sort of 'mediatechnological engineering'. "Put bluntly, today's media no longer target human subjectivity as such (perceptual consciousness)", he states, "but rather aim directly to

20 Bernard Stiegler, *La société automatique I. L'avenir du travail* (Paris: Fayard, 2015), 43.
21 This is for instance the point of view of Erich Hörl. See "A Thousand Ecologies: The Process of Cyberneticization and General Ecology", trans. James Burton, Jeffrey Kirkwood, and Maria Vlotides, in *The Whole Earth. California and the Disappearance of the Outside*, eds. Diedrich Diederichsen and Anselm Franke (Berlin: Sternberg Press, 2013), 121–130.
22 Mark B.N. Hansen, "Engineering Preindividual Potentiality: Technics, Transindividuation, and 21st Century Media", *SubStance* 129, Vol. 41, No. 3 (November 2012), 32–59.
23 Hansen, *Feed Forward*, 64-65.

target the nonsubjective subjectivity at issue in worldly micro sensibility". 24 For Hansen, however, the information gathered by 21st-century media are able to expand experience precisely because this information does not require the mediation and 'approval' of consciousness. The technical sensors now ubiquitous in our lived environments are able to "feed-forward" data into consciousness, and with a shorter delay than the resolution time required for it to arise through "organic" channels, influencing and expanding the possibilities of our future agency in the world. All this comes at the price of an initial loss of individual conscious sensibility (perception), which is then replaced with a "worldly sensibility" – which in turn can "provide access to an unknown world".

In contrast to the ideological refrain of a new immediacy into which ubiquitous media and intelligent environments are bringing us, here we are dealing with an absolute technological mediation thrusting us headlong towards a primacy of technical over human faculties. Nevertheless, there is nothing new in the fact that not only perception but also sensibility is technologically mediated: taking the Simondonian formula, we could say that every aesthetic experience is always already 'techno-aesthetic'.

Rather, the issue is the tendency towards a complete automatisation of sensibility, which can cause the regression of the noetic soul to the purely reactive stage of sensitivity,25 and so, to what Stiegler already prefigured as the 'aesthetic barbarity' made possible by the proletarianisation of sensibility. This is so because, again quoting Simondon, "the *aesthèsis*, the fundamental perceptive intuition, is part of a culture. It acts like a pre-selector, separating the acceptable from the unacceptable, and determining whether one will accept or refuse".26 Without the *aesthesis*, symbolisation is no longer possible, and without symbolisation, there can be no thought.

This kind of danger was already sensed in the 1950s, when Asger Jorn recognised the following as the basic question for today: "how can we avoid a total automatism, a transformation of our intelligence into an instinctive and standardised reflex? […] Can we

24 Hansen,"Engineering Preindividual Potentiality", 57.
25 See Stiegler, *Symbolic Misery 2*, 78.
26 Simondon, "On techno-aesthetics", 4.

retain freedom and experimental desire under the new historical conditions?"27

This quote is clearly in line with the most recent book of Stiegler,[28] where he claims that automatisation is not the problem as such, but only inasmuch as this automatisation no longer opens up new possibilities for disautomatisation and autonomy: the time we save thanks to automatisation must be reinvested in finding new capacities of disautomatisation. Again, the question lies along the dimensions of speed and time: further reflection on these dimensions, capable of putting aside any simpleminded techno-enthusiasm, is surely necessary today, if we hope to recover the possibility of actively making our way through a world in which unexplored heuristic possibilities remain to be thought.

27 Jorn, "Contre le fonctionalisme".
28 Stiegler, *La société automatique I*.

Big Data and the Thermodynamics of Discretisation

Alexander Wilson

Technics derive from our organism's thermodynamic condition. We must think of hominisation and its technological advance as being fundamentally driven by a thermodynamic relaxation process. Observation, retention, protention, memory, expectation, and the technologies that have always mediated these activities, are ultimately inscribed in material reality's economics of hot and cold, movement and stasis, chaos and order. As living beings, we are *negentropic*, and our technologies are ultimately extensions of our biological drive to expand our phase space [1] and avoid fatal thermodynamic phase transitions. When it gets too hot, we sweat to release excess heat; when it gets too cold, we get goosebumps and our hairs stand on end, producing an insulating air-barrier. Artificial, technical modes of self-regulation expand the organism's capacity to pursue its metastable becoming. What is key here is how the organism knows if it is too hot or too cold: cognition. The organism gathers information about its environment. Indeed information derives from this process of observation; it emerges from the transductive production of the organism-environment relation, in the gap that progressively appears between the terms. Claude Shannon's original theory described information as a measure of the *improbability* of a signal: a signal contains information to the degree that it deviates from the most probable state.[2] Information is a by-product of the organism's activity of observation: an unexpected occurrence is an event, which causes an update in the organism's horizon of expectation, whereas an expected occurrence merely confirms the anticipation. Information is therefore

[1] Giuseppe Longo and Maël Montévil, "The Inert vs. the Living State of Matter: Extended Criticality, Time Geometry, Anti-Entropy – An Overview", *Frontiers in Physiology* 3 (2012) page numbers?

[2] Claude Shannon, "A Mathematical Theory of Communication", *Bell System Technical Journal* 27, no. 3 (1948), 379–423. .

reflected in the various states that the organism adopts in reaction to incoming sensorial fluctuations. As Karl Friston's work shows, the biological system's active Bayesian inferential behaviour is intimately linked to the thermodynamic principle of free energy reduction.[3] And if our organism is geared toward avoiding thermodynamic thresholds and phase transitions, the same also goes for our technologies, our media, and communications systems, which are extensions of the immediate negentropic functions of the body.

In this light, Bernard Stiegler is right to stress that the fundamental drive behind the historical development of technics is the process of *discretisation*. Technics have in a sense always been about discerning and keeping track of the salient characteristics of the organism's environment, about putting a finger on the previously unknown microscopic events composing the macroscopic phenomena of our world, about increasing the granularity of our observations in order to make more precise predictions.

Data, Scale, Heat

Today, our technologies can peer into the smallest constituents of matter, and simulate the universe as it was moments after its spontaneous break from eternal silence. One of the most important big data endeavours is that of the Large Hadron Collider (LHC), the most complex machine ever built, whose collision detectors collect an unprecedented amount of data. The ATLAS detector captures 40 million 3D photos per second, each snapshot containing 92 million pixels. The vast datasets collected are then analysed with algorithmic tools, in order to find meaningful events, such as new particles. It uses up 1000 Gw of electricity per year.

This invocation of the LHC is meant to illustrate a certain nexus of ideas. First, it emphasises that *big* data is matter of scale. Literally, if big data is so big, it is because it results from the technical impetus to discern smaller and smaller details of the world. *Big* data should therefore be regarded as a contemporary effect of this historical

[3] Karl Friston,"The Free-Energy Principle: A Unified Brain Theory?" *Nature Reviews Neuroscience* 11, no. 2 (2010), 127–38.; Karl Friston, James Kilner, and Lee Harrison, "A Free Energy Principle for the Brain", *Journal of Physiology-Paris*100, no. 1–3 (2006), 70–87.

process of discretisation, of measuring, and of keeping track of ever more minuscule details, events, interactions, locations, positions, and correlations, in the technological pursuit of more optimal predictive inferences.

Secondly, and just as importantly, the LHC demonstrates that in a sense Marshall McLuhan was right: there are *media hot and media cold*.[4] That is to say, our technologies, our measuring devices, our media and communications systems, in sum, all of the extensions of human existence into the non-living realm, are submitted to the thermodynamic constraints of the universe. Great quantities of energy are needed to run the LHC's subatomic collision experiments. In order to discern the fundamental constituents of matter, it must recreate the extreme temperatures of the early universe. This is characteristic of all discretisation: it consumes energy to break things apart, to pulverise, to filter matter and reveal an ever finer granularity of the world. But energy is also required by discretisation's complimentary aspect: recording, storage, *memory*. If discretisation is a matter of heating, memory is a matter of cooling. All information storage is, in some sense, 'cold storage'. Memory is a keeping-cool, a slowing down of entropy's insatiable drive to chaos. And if technological progress has contributed to a 'global warming', it is because an increase in *environmental entropy* is the price we pay for *mnemonic negentropy*. Let's look at some examples. According to the influential *early anthropogenic hypothesis* put forth by climatologist William Ruddiman, the Anthropocene has deep historical roots going back thousands of years; since the neolithic transition to agriculture, humans have inevitably modified the concentrations of methane and CO_2 in the atmosphere, and perhaps even prevented the earth from sliding into the next ice age.[5] On the scale of human physiology, a similar thermal process is evident: when humans evolved larger, thermally expensive brains, they lost their body hair and developed sweat glands to help dissipate the excess heat. Similarly, to cool today's energy-hungry data centres, we increasingly build them in arctic climates. In other words, there is always a thermal trade-off for the technological taming of

[4] Marshall McLuhan, *Understanding Media: The Extensions of Man* (Cambridge, Mass: The MIT Press, 1994).
[5] William F. Ruddiman, "The Anthropogenic Greenhouse Era Began Thousands of Years Ago", *Climatic Change* 61, no. 3 (n.d.), 261–93.

unexpectedness in the environment: we heat the globe in order to keep our memories and expectations cool; we increase entropy *over there* in order to decrease it *over here*.

It is furthermore important to stress the material condition of information. As Rolf Landauer showed, *thermodynamic* irreversibility is linked to *logical* irreversibility.[6] All information has a thermodynamic signature. This is due to the fact that information is invariably expressed in physical configurations of matter, in the organisation of a given system's *degrees of freedom*. When we copy information from one context to another, we have to physically implement the information by placing the variables into some specific configuration, which expresses it. In early computers we had arrays of electromechanical relays constantly clicking away as a computation was taking place: in order for computations to happen, actual material objects need to be physically flipped into various configurations. And when they are not flipping they need to stay in place. That is why electronic components begin to malfunction when they get too hot; bits flip for no apparent reason, making computations unreliable. The physical components of a computer are not merely *representing* data, as if it were elsewhere, for example in some spooky world of immateriality. The configuration of the elements of an information processing system, be it a computer or a brain, does not represent information, but *instantiates* it. There can be no information that is not physically implemented in some material system. Even thought itself, as immaterial as it may seem to the thinker, is itself implemented by its material substrate and functional configuration.

With all this in mind, the evolution of mnemotechnics toward this horizon of big data appears to result from a material, thermodynamic process that concerns information's connection with the molar/molecular distinction, as well as with energy and its inscription into an economy of motion and rest, hot and cold. Since information emerges from the organism's discerning and tracking of differences in the world around it, it is inextricable from the living being's irreducible orientation within time, and the fact that it does not know the future. If, as Shannon observed, information is a measure of

[6] Rolf Landauer, "Irreversibility and Heat Generation in the Computing Process", *IBM J. Res. Dev.* 5, no. 3 (1961), 183–91.

the unexpectedness of an event, it is therefore inseparable from the essentially *predictive* character of life's pursuit of existence. The organism makes these predictions by repeatedly sampling, memorising, and comparing new results to past ones, updating its horizon of expectation. Discretisation refines the granularity of these samplings and comparisons and, in principle, increases the reliability of the organism's predictions, allowing it to extend its phase space.

Material Limits of Discretisation

The history of computing follows discretisation's progressive shrinking toward the nanoscale. For decades *Moore's law* has served as an index of this exponential progress. Moore's law is a measure of the rate at which civilisation miniaturises its computational technologies, the rate at which the quantity of components we can 'cram' onto integrated-circuits doubles. Long gone are the days of the relay and vacuum tube in the computer circuit. Simultaneously, it concerns the acceleration of processing speeds, as well as the rate at which energy consumption per computation decreases. But for over a decade, we have seen Moore's law slow down, and level off. The curve is flat-lining. Why is this? While there are some economic and environmental factors involved in this slow down, Moore's law has been shown to be rubbing up against physical limits.

We are now manufacturing the most advanced processors with individual components of only 16 nanometres, using lasers and optics capable of etching silicon at sub-wavelength scales. Yet at this scale, thermodynamic limits and material constraints come into play, beyond which transistors and logical components fail to be reliable. At these scales quantum tunnelling becomes a factor, and it becomes increasingly difficult to design circuits that keep the bit of information in place for the duration of the computation's time step.

So, being derivative of the more fundamental process of discretisation, if Moore's law is rubbing up against thermodynamic limits, might this mean that discretisation more generally is beginning to meet its own material limits? This would certainly resonate with the discontents of the Anthropocene. For what is the Anthropocene other than a collective realisation of the material finitude of human

progress? This would stem from big data's sublime 'bigness', which implies not only a question of quantitative degree, but perhaps the transgression of a qualitative threshold: that it is *too big* for us to fathom, that there is *too much* information for us to process or track. As Leonard Susskind says: "entropy is hidden information. In most cases, the information is hidden because it concerns things that are too small to see and too numerous to keep track of."[7] It follows that, as our process of discretisation plunges into the nanoscale, our capacity to track and to produce meaningful information gives way to entropy. Actuality is traded in for superposed possibilities, and the world progressively recedes into digital obscurity. We are in effect blanketing the world in a *data cloud,* which, like the weather, is ultimately unpredictable save for short-term probabilistic forecasts. Perhaps the future promises data storms and data floods, various information disasters in parallel to climate change. For in the century of automation, not only are machines displacing the body as means of production (for example, by taking the place of the factory worker), but more importantly, now the endeavours of observation, interpretation, and discernment themselves are outsourced to machines.[8] If today the fabric of intelligibility is wearing thin, it is in part because our world is increasingly determined by vast banks of meaningless data, that is, data that is generated by, and for, 'discrete-state machines' which do not directly participate in the 'extended criticality' of biological organisms.[9] Simultaneously we are socially isolated within our individual accesses to information, increasingly living our lives in the *solitary confinement* of our 'filter bubbles',[10] and the algorithmic eyes which now do the work of recognising patterns in the petabytes of social and economic data we process, may no longer route back to any human mind. The big data horizon might thus signal an increasing cultural *myopia*, a question of *no longer seeing the forest through the trees*, where discretisation has reached a threshold beyond which it offers diminishing returns. We have perhaps always

[7] Leonard Susskind, *The Black Hole War: My Battle with Stephen Hawking to Make the World Safe for Quantum Mechanics* (New York: Back Bay Books, 2009), 133.
[8] Bernard Stiegler, *La Société automatique, I: L'Avenir du travail* (Paris: Fayard, 2015).
[9] Francis Bailly and Giuseppe Longo, *Mathematics and the Natural Sciences: The Physical Singularity of Life* (London: Imperial College Press, 2011).
[10] Eli Pariser, *The Filter Bubble: How the New Personalized Web Is Changing What We Read and How We Think* (New York: Penguin, 2012).

outsourced memory with technical aids, but now algorithmic social automation risks outsourcing the central role of cognition itself.

From a speculative thermodynamic perspective, these symptoms of discretisation in the Anthropocene evoke a system that is creeping toward a critical state, no longer capable of dissipating excess heat and entropy to ensure the pursuit of individuation. For if information is the product of our organismic process of free-energy reduction, what else could be signified by the diminishing returns of information production? The post-human horizon, the technological singularity, and other variants of this contemporary narrative of the 'boundary' reached by techno-genesis, might therefore be thought of in terms of a *phase transition*, where all trajectories become non-linear and impossible to predict. To gloss on Max Tegmark's convenient terminology: might it be getting *too hot* or *too cold* for 'perceptronium'? [11] Is our runaway process of discretisation doomed to exceed the thermal bounds of the living? Are we exhausting the material conditions for the exotic states of matter that correspond to cognition? Of course, such a threshold may still be a long way off, but it is crucial to think about this tendency now that the symptoms begin to appear.

Logical Limits of Discretisation

The narrative of human enlightenment through the application of reason, the dream of eliminating uncertainty through the rational application of algorithmic rules, ultimately evoke the prospect of omniscience. The figure of Laplace's demon, for whom the future and past are as vivid as the present moment, is the prime representative of what is projected by the narrative of transhuman progress toward total mastery of the unknown. But in addition to the thermodynamic constraints already visited, the narratives that legitimate the historical process of discretisation in this way may also encounter *logical* limits. This is due to a curious epistemological *circularity between cognition, information, and matter*.

[11] Max Tegmark, "Consciousness as a State of Matter." *arXiv:1401.1219 [cond-Mat, Physics:hep-Th, Physics:quant-Ph]*, accessed January 6, 2014, http://arxiv.org/abs/1401.1219.

Recall that, as physics now sees it, from a cosmological perspective, matter is ultimately made of information. As John Wheeler famously said, the universe is constructed "it from bit". If one zooms into any parcel of reality, eventually one reaches the Planck scale, where the reciprocal constraints between the known forces and constants of the universe impose a block on microscopy, and one can zoom in no further. At this scale, reality bubbles into a quantum foam of reciprocal relations between causally entangled cosmic degrees of freedom. In one compelling theory, the entire observable universe is thought to be completely specified by information inscribed at the Planck scale on the surface of our inflationary bubble.[12] The stuff of the world is just as immaterial as a choice between yes or no, existence or nonexistence. The recalcitrance and resilience of matter is an effect of 'spontaneous' symmetry breakings, which will have distributed matter this way and not another.

But stating that matter is ultimately made of information implies that the role of cognition in the universe is ineliminable. Wheeler notes:

> 'It from bit" symbolizes the idea that every item of the physical world has at bottom […] an immaterial source and explanation; that which we call reality arises in the last analysis from the posing of yes–no questions and the registering of equipment-evoked responses; in short, that all things physical are information-theoretic in origin and that this is a participatory universe.[13]

This makes sense because, as we have seen, information derives from the organism's cognitive activities: information is a measure of the unexpectedness of an occurrence for the given observer. This leads to the epistemological circularity which Wheeler illustrated with his famous 'U' symbol for the participatory character of cognition and cosmos. If the observing organism is itself a material entity, then it too is ultimately reducible to information, which implies a strange

[12] Susskind, *The Black Hole War*.
[13] John Archibald Wheeler, *Information, Physics, Quantum: The Search for Links*. Physics Dept., University of Texas, 1990.

loop: not only does information *depend* on observation, it is also its *precondition*.

To put it schematically:

- Matter derives from (is made up of) information.
- Information derives from cognition (for it depends on the observer's horizon of expectation).
- Cognition derives from the toils of matter (for living matter presumably emerges from non-non-living matter)… and the cycle begins anew, with living matter observing the universe and deriving information as a measure of its predictability.

This circular explanatory chain suggests that, on its own, the unilateral discretisation of nature in the pursuit of uncertainty reduction need not be sustainable in the long run. If anything we should be less optimistic about our capacities to reduce uncertainty, for it suggests that omniscience is logically unobtainable and that more contingency always awaits us beyond each new granular scale of observation.

The prospect of omniscience rests on the ontological validity of *superveniance*: the absolute reducibility of every macroscopic event or property to the microphysical structure that composes reality. Superveniance implies that there is no novelty on any level of organisation except the most fundamental microscopic one, and that macroscopic organisation is inefficacious and not causally involved in the production of new events. Once the microphysical constituents of a phenomenon are in their places, so are its macroscopic properties, meaning that the macrophysical is absolutely specified by, or *supervenes* on, the microphysical. This view implies that, if only we could build larger and larger particle accelerators and track the microphysical constituents of reality, there would be no need for any other form of science. The chemical folds perfectly into the physical, as does the biological and even the psychological. The intricacies of mind and the complexities of social interactions are held to be perfectly stipulated by the fundamental indivisibles of reality. Thus superveniance implies that any novelty observed on the macroscopic level, or any so-called irreducible 'emergent' properties, are merely illusions resulting from observer ignorance. There is no novelty on the macro scale, there is no possibility for 'top-down' causation, and any property we may ever

observe that resembles such phenomena, isultimately the effectof our ignorance of the microphysical 'particles' which underlie them. As in the influential arguments of Jaegwon Kim, this means that there is no way for anything like human 'normativity' to emerge, no possibility for 'mental causation', no way for an emergent network of reciprocal determinations to boot-strap themselves, as it were, to 'lift off' from their substrate and become autonomously self-sustaining and regulating, selecting and organising their milieu, like the mechanisms of life and cognition.[14]

But the matter-information-cognition loop challenges this picture. First of all, by 'explaining away' agency and cognition, superveniance abandons its ontological status. For, as Johanna Seibt argues, "just like theoretical concepts in science need a *model* or canonical illustration to serve their explanatory function[,] [a]n ontological model must be […] 'founded' in […] agentive experience".[15] But furthermore, in its evacuation of agential cognition, the theory of superveniance also undercuts science's best understanding of matter: it from bit. The information matter must derive from makes no sense in the absence of cognition. Superveniance therefore fails to account for matter in the scientific sense because it stubbornly rejects the logical circularity of cognition and world.

If we take the matter-information-cognition loop seriously, however, we are left with a world that resembles that explored in Eugene Wigner's famous little paper, *The Unreasonable Effectiveness of Mathematics in the Natural Sciences* (1960). "[I]t is possible that the theories, which we consider to be "proved" by a number of numerical agreements which appear to be large enough for us, are [nevertheless] false because they are in conflict with a possible more encompassing theory which is beyond our [current] means to discover." "[Our] level of ingenuity is a continuous variable and it is unlikely that a relatively small variation of this continuous variable [will change] the attainable

[14] Jaegwon Kim, *Supervenience and Mind: Selected Philosophical Essays* (Cambridge: Cambridge University Press, 1993). Page number?

[15] Johanna Seibt, "Free Process Theory: Towards a Typology of Occurrings", *Process Theories: Crossdisciplinary Studies in Dynamic Categories*, ed. Johanna Seibt (Dordrecht: Springer, 2003), 25.

picture of the world from inconsistent to consistent."[16] In other words, our science will always be left facing a boundary of pure chaotic unpredictability. For cognition is and always will be bounded and situated within a path-dependent, contingent process that may lead toward relatively higher degrees of granularity, or lower levels of symmetry, but there is no reason to believe that this process is anything but *asymptotic*. Organisms and their cognitive relationship to the world are path-dependent. All the symmetries and invariances that we observe in nature, and which come to be the basis of scientific knowledge, are functions of the paths (of least resistance) that our organisms and their ancestors have adopted to interact with objects in the world, and vice versa. We would not know what we know if we had had a different, contingent history, both on the social-historical scale and on the scale of the deep time of evolution. The fact that we gain knowledge from such path-dependent, contingent processes as observers means that we are necessarily imperfect knowers.Even though there are ways of reducing the negative effects of our bounded rationality, all of these amount to nothing more than provisional strategies of risk management, for there is no objective measure for the optimisation of our inferences about the world. There seems to be an irreducible gap between cognition and world, which implies the impossibility of a total knowledge of the universe, of total predictability. The Laplacian world, like the pseudo-ontology of superveniance, is not only practically unfeasible, but also logically untenable.

Conclusion

In my view, we are urged by these realisations to seek ways out of the monadic relation which characterises discretisation's unidirectional decoding of nature and which leads ostensibly to the horizon of big data. Is there not a different class of relations that characterise the organism? Bailly and Longo[17] aptly describe the "singularity of the

[16] Eugene P. Wigner, "The Unreasonable Effectiveness of Mathematics in the Natural Sciences. Richard Courant Lecture in Mathematical Sciences Delivered at New York University, May 11, 1959", *Communications on Pure and Applied Mathematics*, Vol. 13, No. 1 (February 1960), 1–14..

[17] Bailly and Longo, *Mathematics and the Natural Sciences*.

living" as an organismic mastery of the perpetual phase transition, corresponding in many ways to the integrative process of what Whitehead called 'concrescence', or what Deleuze called 'synthesis'. The organism's mereological resonance does not follow from the process of discretisation; it is a different class or category of activity, one of integration, of renormalisation, of 'passing to the limit'. Today, while in its unilateral application of the rule the algorithm is intrinsically eliminative and selective, *aesthesis* remains essentially integrative[18] and specifically concerns an inclusive concrescence of differences. Cognition not only requires discernment, but also concerns the inclusive *all-at-onceness* of an experience, which corresponds to a *multilateral* relationality, a transduction of many perspectives, many points of view on the world, many *monads*. And it is this capacity for integration that the algorithmic machines, to which we have outsourced cognition, fail to realise. Our runaway process of discretisation evacuates the synthetic condition of sensation, on which the participatory universe, and all intelligibility, depends. Rather than a unilateral monadic relation between subject and object (or predicate), *aesthesia* concerns the co-conditioning of multiple expressions of the world, a world which, as in Leibniz, is nowhere but in its diffractive perspectives upon it, mutually constrained by their *com-possibility*, their reciprocal inclusion. We can thus conclude with the speculative suggestion that the automated society of unilateral control, which Deleuze influentially described in his *Post-script*,[19] will best be fought with a privileging of aesthetic integration and reticulation, as a necessary compliment to the process of discretisation which now runs amok.

[18] Giulio Tononi, "Consciousness as Integrated Information: A Provisional Manifesto", *The Biological Bulletin* 215, no. 3 (2008), 216–42.
[19] Gilles Deleuze, "Postscript on the Societies of Control", *October* 59 (1992): 3–7.