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A Geology of the General Intellect

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ABSTRACT

We can no longer be certain whether the central terms and conceptual matrix that the Italian Autonomist Marxist tradition richly develops and draws on—*the common*, *the general intellect*, *immaterial labour*, *psychopolitics*, *cognitariat*—are able to survive unscathed the theoretical problems that the epoch of the Anthropocene poses. In an attempt to push this conceptual matrix to its political and ontological limits, I expose a series of "ecological deficits" at the core of Autonomist thought and make the argument that semiocapitalism is a geological operator just as much it is a cognitive, financial or linguistic one. This has a plethora of paradoxical implications that are constellated throughout the three chapters. The first chapter explores the non-mediatic conditions of possibility behind "mediation": following Jussi Parikka and Matteo Pasquinelli, the first "ecological deficit" emerges due to conflating the mediasphere with the subjective operations of the "sign" (semiotic flows of labour, knowledge, information) and "desire" (creative flows, libidinal energy, affects) as well as over-valuing the "general intellect" (the productive powers of the social brain) and its exclusive relation to the infosphere (knowledge transmission, big data, linguistic networks of communication), the cognitariat (social subjectivity, value-producing labour) and the technosphere (machines, fixed capital). The second chapter critiques Antonio Negri's ontological theory of value: following Silvia Federici and Jason W. Moore, the second "ecological deficit" emerges due to Autonomism's negligence of socially necessary unpaid work, non-human relations of reproduction and cheap nature that make possible value-producing labour; this chapter also, following Bernard Stiegler, critiques an ontology of the sign that privileges *expressionism* (immaterial semiotic productivity, meaning and epistemics) over *impressionism* (retentional systems of incarnation, reproduction and energetics). The third chapter develops a critique of representational eco-politics or the spectacular Anthropocene: following Jean Baudrillard and Yves Citton, the final "ecological deficit" emerges due to the hyperplasia of images, data and simulacra of the Anthropocene itself, whereby the referent is spectralized by the luminescent aura of the sign, resulting in complicated forms of irrelevance, boredom and attentional scarcities. Each chapter in its own way develops the speculative leitmotif of a "transcendental geology"—i.e. the claim that *the earth is a condition of possibility for thought*.

KEYWORDS

Autonomist Marxism, Post-Fordism, Semiocapitalism, Anthropocene, Transcendental Geology, Geophilosophy, Capitalocene, General Intellect

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INTRODUCTION

Natural history is precisely that science that generates epochs in the universal unground, running from nature to ideation.
—Iain Hamilton Grant, "Transcendental Geology"

The Earth layer is not only The Stack's schematic foundation; it is also the driving force and form of its logic: the world remaking itself in waves, bit by bit, pebble by pebble.
—Benjamin Bratton, "Earth Layer"

Rather, it is the machine which possesses skill and strength in place of the worker, is itself the virtuoso, with a soul of its own in the mechanical laws acting through it; and it consumes coal, oil etc. (matiéres instrumentals), just as the worker consumes food, to keep up its perpetual motion.
—Karl Marx, "Fragment on Machines"

Autonomist theoretical and organizational praxis emerges from the experience of revolutionary conflict in Italy (1968 to 1979) that took shape around the changing political, economic, industrial and postwar landscape. As the country's "productive capacity and share of the world trade ballooned throughout the 1950s and early 1960s, commentators hailed the 'economic miracle' that transformed Italy from a largely rural economy into an industrial powerhouse centered on the automotive industry."[1] As Bifo notes, however, this 'miracle' was established on the basis of the amplification of exploitation: abject wages and vicious exploitation made possible by high levels of unemployment and a large reserve army of migrant workers from an impoverished Southern Italy.[2] This series of crises, revolutionary experiences and transformations were captured and diagnosed by the Italian neo-Marxist group *Potere Operaio* (Workers' Power)—comprised of figures such as Franco "Bifo" Berardi, Franco Piperno, Antonio Negri, Mario Tronti and Paolo Virno—until its dissolution in 1973 mutated into the movement known as *Autonomia Operaio* (Workers' Autonomy).[3]

These groups—established in the midst of political turmoil and massive post-war industrial growth—made up a broad movement consisting of factory workers, university students and

[1] Nelson and Braun, "Autonomia in the Anthropocene," 225.
[2] Bifo, "Anatomy of Autonomy," 150.
[3] ibid., 149.

Marxist intellectuals who collectively "refused capital's 'gift' of work...and advanced a politics of self-determination and self-valorization outside of state and party politics."[4] Stuck between a Center-Left government (the pact between Christian Democrats and Socialists) "founded on the policy of vague reform" and the "bureaucratic intransigence" of trade unions, the manifestation of early Autonomist thought and revolutionary practice—orbiting around axioms of self-organizing labour, the ontological primacy of labour-power, the refusal of work and post-Leninist modes of organization outside of state or party politics—can be attributed to disgruntled automotive workers at FIAT, FATME and Montedison throughout the 1960s disillusioned by traditional representational organizations played by authoritarian leadership and the compromising decision-making of trade unions.[5] In the troubled autumn of 1969, the culmination of these discontents exploded into "widespread strikes, factory occupations, and sabotage" that "rocked the manufacturing sector, resulting in the loss of 40 million worker hours that autumn alone."[6]

These waves of struggle continued into the mid 1970s until "a technological reorganization aimed at the reassertion of capitalist rule defeated the worker's power. The technical restructuration implied the substitution of human labor with machines, the automation of entire productive cycles and the subjugation of mental activity"—in other words, the emergence of a post-Fordist economy (i.e. semiocapitalism) increasingly favouring "fixed capital" (machinery) over "variable capital" (labour-time), debt over wages, financial markets (stocks, shareholders) over producers and material goods (commodities, communities) and individualistic competition over social welfare programs.[7] Rather than fight for full employment, a right to a job, or neoliberal entrepreneurial fantasies of finding oneself in one's creative work, however, Autonomism fights—in the "cognitive" stage of capitalism—to unleash the "energies and potential that exist for socialized intelligence, for a general intellect" that could make possible a massive reduction in working hours via automated machinery, basic minimum income and a post-capitalist social commons generated by the creative powers of the multitude.[8]

Semiocapitalism also necessitates a shift in the political grammar and political terrain of struggle. The *logic of production* and *site of struggle* shifts outside of the walls of the factory into the

[4] Nelson and Braun, "Autonomia in the Anthropocene," 223.
[5] Bifo, "Anatomy of Autonomy," 149, 150.
[6] Nelson and Braun, "Autonomia in the Anthropocene," 226.
[7] Bifo, *The Soul at Work*, 28.
[8] Bifo, "Anatomy of Autonomy," 157-158.

entire plane of social relations making up networked life (i.e. the "social factory"—where "productive time" becomes indistinguishable from "life time" as firms do not merely exploit blocks of regimented labour-time but constant flows of social co-operation, desire and communication, demanding subjects "give themselves" to tasks, problems and objectives within the company or larger neoliberal climate). As Carlo Vercellone asserts, in "the exploitation of the use-value of labour-power expands to the entire social day."[9] This implies, for Autonomist theorists, a concomitant shift from the revolutionary subjectivity of the industrial *proletariat* to the revolutionary subjectivity of the *cognitariat*—in other words, semiocapitalism puts the *theory of proletarianization* into crisis because digital workers are highly fragmented in terms of tasks, job security, wages, roles and physical locality, no longer existentially "side by side" on the factory floor.

One of the major problems that emerges as Autonomist thinkers attempt to make sense of this epochal transition from the Keynesian-Fordist paradigm (characterized by features such as the welfare state, full employment and factory work) to the neoliberal and post-Fordist paradigm (characterized by features such as precarity, competition, financialization and immaterial labour), where production processes become more and more "informationalized," "communicative" and "expressive," is the repression of the relation between the *cognitive* (i.e. global North) and the *geological* (i.e. global South). As indicated in the concept of "immaterial" labour and a revolutionary theory premised in the techno-scientific possibilities of the cognitariat, "the material conditions of this new economy in extractivism and the globalization of manufacturing remained unacknowledged," and, as a result, liberation becomes reduced to "a *particular* anthropos situated in a *particular* locus of global production networks, whose freedom from work depended on an intensified appropriation of non-human 'work/energy.'"[10]

Despite Virno's claim that Autonomia's disengagement from environmental struggle potentially stems from or is conditioned by the fact that in Italy—unlike in places like Germany or France—the Italian Greens were too conservative and Italian "ecologism was born *against* the class struggles of the 1970s," it is clear that the real ecological deficit that emerges in Autonomist thought is predicated on an anthropology and political ontology that is inexorably *linguistic*, *technological*, *social* and *productive* (à la Marx, Virno, Negri, Deleuze) rather than *geological*, *metabolic*, *parasitic* and

[9] Vercellone, "From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism," 34.
[10] Nelson and Braun, "Autonomia in the Anthropocene," 229, 230.

reproductive (à la Parikka, Pasquinelli, Bataille and Federici).[11] As Autonomist feminist theorist Silvia Federici and eco-Marxist Jason W. Moore argue, what enables commodified wage labour to function as the "substance" of value at all is *socially necessary unpaid work* and *reproductive labour*. Thus, Deleuze and Negri's relentless Spinozism has to be called into question insofar as it supports an increasingly mystified anthropological or machinic Prometheanism—or, to borrow Alexander Galloway's wonderful term, "Brometheanism." The Anthropocene forces us to confront the fact that we have never been autonomous, exclusively productive or purely social creatures.[12] If there is a Spinozism to be redeemed here at all, it is not one that reads Spinoza's ontologization of the principle of sufficient reason qua Substance as an *infinite casual productive force* (i.e. permanent dynamic genesis, becoming, process) but rather qua Nature as a *causal network of serial dependencies* (i.e. permanent asymmetries, parasitisms, non-synchronic strata imbrication). Contra Bifo's noöcentric claim that "we all sit in front of a screen" and "type," it seems more pertinent to decipher the computational as a geological object—complicit in complexes of petroleum, rare earth extractivism, hyper-exploitation of global workers, flows of electricity and pollution—rather than as a reified techno-linguistic *dispositif* of post-Foucauldian psychopolitical control.[13]

As Jussi Parikka provocatively claims, the "periodic table is one of the most important reference points in the history of technological capitalism" given that the "insides of computers are folded with their outsides in material ways; the abstract topologies of information are entwined with geophysical realities."[14] Semiocapitalism is not just about the mobilization of signs, desires and cognitive actors. It is also about the mobilization of rare earths, minerals and geological actors—from cobalt (lithium ion batteries) to germanium (fiber-optic cable)—the earth is deterritorialized and reterritorialized as composite elements of media materiality that high-tech sectors of the global North infinitely rely upon. Semiocapitalism is a geological operator: it puts nature to work. Given that almost every action performed on the Internet emits carbon dioxide, to put communication to work at this juncture of historical development and techno-capitalism is automatically to put nature to work:

> making a Google search emits .2g of CO2, watching a YouTube video for only 10 minutes emits 1g of CO2, and simply owning a Gmail account for a year emits 1200g of CO2. Regardless of whether a user is actively using the Internet or not, a user's carbon footprint

[11] Virno, "Do You Remember Counterrevolution?," 253.
[12] Nelson and Braun, "Autonomia in the Anthropocene," 230.
[13] Bifo, *The Soul at Work*, 74.
[14] Parikka, *A Geology of Media*, 110.

> is quantified by the volume of data the user creates and its subsequent manipulation which can be independent of user action.[15]

The "pre-history" of the general intellect and semiocapitalism—from Gutenberg (the printing press) to Zuckerberg (the data center)—attests to a process of semiotic incarnation and the absolute entanglement of the geological with the cognitive via the machine, forcing us to reconfigure the Autonomist notion of the general intellect and the presumption that knowledge, information and semiotic fluxes operate in a feedback loop between labour, language and machines—i.e. between linguistic cooperation (intersubjectivity), communication networks (digital platforms) and fixed capital (computerized technology).

This thesis, therefore, attempts to read cognitive or semiocapitalism through a geophilosophical prism that takes, not the "thinking subject" as its primary matter of concern, but rather the "earth." The speculative claim running throughout the thesis is that *the earth is a condition of possibility for thought*—a speculative appeal for a "transcendental geology" that can be traced in concepts like "chemical thought" (Schelling), "abstract geology" (Smithson), "a geology of media" (Pasquinelli, Parikka) and "nature-thought" (Deleuze-Guattari).[16] This means that, against certain readings of Spinoza, nature is "not simply natured nature (an object to be shaped or that is manipulable)" or a "naturing nature (a producing subject)"[17]—insofar as this gives way to a militant geo-constructivism (e.g. climate engineering) or mystified organicism (e.g. nature as cyborgic process or vitalistic quasi-subject). Likewise, against certain Marxist-Hegelian readings, Nature is

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[15] Jacob, "Data Centers: A Latent Environmental Threat," https://sites.duke.edu/lit290s-1_02_s2017/2017/03/08/data-centers-a-latent-environmental-threat/

[16] Although I am using the term as a heuristic device to talk about the non-mediatic conditions of possibility behind "mediation," there are post-Kantian implications for thinking a "transcendental geology" laid out rigorously by thinkers such as Gilles Deleuze, Iain Hamilton Grant, Ben Woodard and Benjamin Bratton. While Grant's transcendental geology favors Schelling's *geophysicalist* process of universal ungrounding over Deleuze's *onto-realist* process of universal ungrounding, he sutures it to a kind of philosophical realism that makes one question if the earth even exists or is merely a mystical "nature-subject" or "specimen of debate"—losing the earth in a fabricated philosophical hyperspace in the process. Ben Woodard's transcendental geology quickly becomes "geeky" and "indulgent," making the earth a hyper-porous sci-fi domain of "swiss-cheese" for extra-terrestrial worms. Bratton's transcendental geology is interesting, though, because it implies that capitalism's empirical operations of exploitation, innovation and accumulation already engage in a hyper-speculative transcendental geology via "The Stack" (i.e. a global megastructure made possible by planetary computation). With Bratton, the earth is the layer that provides the material, energy and geological inputs needed to meet the demands of computing but also structures the horizon of cognition's powers or potential. The earth could even become "obsolete" if capitalist technicity learns to harness energy from "stars"—literalizing what Gaston Bachelard calls the "anthropocosmic tissue," a relation of the human to the cosmos that only had an imaginative, theological or poetic role prior.

[17] Neyrat, *The Unconstructable Earth*, 134.

not merely an external *object* or *material* (an "in-itself," "the given," "necessity") pliable to the artificial socio-historical *constructions* or *forms* of "consciously acting Subjects confronting nature itself as forces of nature."[18] Nature is a contingent and dispersed platform that *pre-conditions*, *animates* and *(un)grounds* the Subject-Object dialectic in the totality of its interactions *as a transcendental agent or natural history enclosed unto itself.*

What is interesting in Alfred Schmidt, then, is how nature operates as a precarious transcendental grounding and ungrounding that encapsulates—englobes—productive human agents, consciousness and machines. *Nothing escapes or is outside nature.* Conscious human agents are merely nature combining with itself—where via labour and technology "*nature sheds a part of itself and confronts itself* through the division into 'material of nature' [i.e. Object] and the purposeful 'force of nature' [i.e. Subject]."[19] In other words, nature becomes *non-identical* with itself through generating asymmetrical forms and imbricating strata (anthropological, technological, geological) that are "mutually indifferent" to one another. This is not simply the mutual indifference of Subject (form) and Object (material) that Schmidt affirms, showing how use-values are subject to decay in spite of formal molds or subjective intentions—but of singular developments of particular terrestrial coagulations, different pieces of nature shedding itself and becoming heterogeneous so as to produce separate and internally consistent histories, strata, lines of flight or trajectories.[20] To put it simply, the cognitive is always already interlaced with the geological without these two strata becoming identical to each other or the typical elimination of the latter by the former.

This has major implications for the "general intellect" or "social brain" at both the ontological and political level—especially given that such concepts retain a parodic residue of Hegelian idealism. This means that not only are the social brain, digital culture and the value-producing labour-power of semiocapital parasitic on an ecological surplus (global labour, unpaid work/energy) that operates outside of them (Pasquinelli, Parikka, Moore) but also that mediation taken in all of its senses—representation, computation, interiority, consciousness—is only possible on the basis of a primordial operation or *process of exteriorization that precedes, exceeds and conditions it* (Virno, Stiegler, Cubitt). In other words, thinking is co-determined by its material outside. Thought

[18] Schmidt, *The Concept of Nature in Marx*, 61. "Nature is the Subject-Object of labour. Its dialectic consists in this: that men change their own nature as they progressively deprive external nature of its strangeness and externality, as they mediate nature through themselves, and as they make nature itself work for their own purposes" (61).
[19] ibid., 106. My emphasis.
[20] ibid., 74.

(i.e. the noosphere as noetic basis of the general intellect and cognitive biocapitalism) is literally "stretched" and becomes more a "movement of multiplicities that pertain to territories rather than as a cognitive faculty restricted to already formed human subjects."[21] But this "stretching" does not mean the "social factory" is either omnipresent or a hegemonic tendency waiting to be realized globally. We should be dubious of concepts like the "social factory" and "real subsumption" insofar as they are predicated on a loquacious "social being" that has access to a computer, sufficient purchasing power, streams of knowledge and privileged educational apparatuses—that is, the paraphernalia of cyber-Enlightenment. The machine might have a soul, but it also has a stomach. Underpinning cyber-labour's techno-productivity is always the decadent consumption of energy, global labour and the earth.

Autonomist thought and analyses of semiocapitalism are therefore jeopardized by an incorrigible "ecological deficit" due to conflating the mediasphere with the subjective operations of the "sign" (semiotic flows of labour, knowledge, information) and "desire" (creative flows, libidinal energy, affects) as well as over-valuing the "general intellect" (the productive powers of the social brain) and its exclusive relation to the infosphere (knowledge transmission, big data, linguistic networks of communication), the cognitariat (social subjectivity, value-producing labour) and the technosphere (machines, fixed capital). The geophilosophical line of thought that I propose to deploy in my critique of semiocapitalism and the ethereal axioms of Autonomist thought, over the course of three chapters, reads a host of privileged concepts and objects—signs, desire, the general intellect, the commons, machines, time, value, productivism and attention—from the vantage point of "becoming-earth." These concepts breakdown and undo themselves simply by way of practicing the minor or nomadic science of "following the flow of matter."[22] Logistics becomes immanent critique. Disassembly becomes a radical form of deconstructive and critical materialism. Thought becomes a permanent fragility—a porcelain surface resting on a universal volcanism, the "will of the deeps."

[21] Parikka, *A Geology of Media*, 21.
[22] Deleuze and Guattari, *A Thousand Plateaus*, 373.

GEOPSYCHOPOLITICS: A CRITIQUE OF PURE DESIRE

> *It is estimated that an avatar on Second Life consumes more electricity than the average Brazilian.*
>
> —Matteo Pasquinelli, *Animal Spirits*

> *Mines are a central part of cognitive capitalism*.
>
> —Jussi Parikka, *A Geology of Media*

> *Does the libido come with a carbon-footprint? If so, how might we measure its size? How to account for its effects? What might the environmental "impact" of our personal and collective desires be?... Are we living through the moment of "peak libido"—a concept that may in fact uncannily mirror the discourse of "peak oil"?*
>
> —Dominic Pettman, "Libidinal Ecology"

1.0 INTRODUCTION: NOTES TOWARD A TRANSCENDENTAL GEOLOGY

We can no longer be certain whether the central terms and conceptual matrix that the Italian Autonomist Marxist tradition richly develops and draws on—*the common*, *the general intellect*, *immaterial labour*, *psychopolitics*, *cognitariat*—are able to survive unscathed the theoretical problems that the epoch of the Anthropocene poses. Despite Autonomist Marxism's omnipresent impact on political activism and post-Marxist thought over the last thirty years, especially with the international success of Michael Hardt and Antonio Negri's *Empire* (2000), it has been exceptionally slow to elaborate theoretical positions that address the ecological crisis, anthropogenic global warming or environmental politics in any systematic fashion. With a neurotic focus on the modalities of *cognitive capitalism*, the *production of subjectivity* (regarded by way of language, habit or affect) as well as the quaint *semiotic* ("signs" à la Saussure, Barthes, Baudrillard) and *libidinal* objects ("desires" à la Freud, Lacan, Deleuze) indigenous to media studies, many scholars working within the Autonomist tradition have attached little importance to or completely neglected the ecological components of post-Fordism—namely, its roots in the material economies of extraction (e.g. minerals for mediatic devices), destructive terraforming (e.g. deforestation for the book printing industry, an industry Amazon thrives on), financialization of nature (e.g. ecosystem services and carbon markets), abysmal circuits of e-waste (e.g. proliferation of zombie media due to technological innovation and obsolescence), let alone the immensely uneven toxic geographies that emerge as a necessary consequence of the globalized manufacturing relations between the global

North (e.g. Silicon Valley) and the global South (e.g. Shenzhen). As Sara Nelson and Bruce Braun claim, "the Anthropocene names autonomist Marxism's unthought, an unthought that intrudes on its political imaginaries."[23]

One aspect of this chapter, then, is to expose and examine the existence of an "ecological deficit" at the core of Autonomist thought. The other, more speculative aspect of this chapter, however, is to explore the consequences of what happens to Autonomist concepts when they are stretched to their breaking point—that is, what happens to the "general intellect" when we leave the infosphere; to mediatic objects when we leave the mediasphere; to subjectivity and consciousness when we leave the psychosphere. This does not mean these concepts break-down and stop functioning altogether; rather, they come into absolute proximity with what they *repress* at both the theoretical and material level—the geological, complex telluric flows, global labour. This requires us to adopt a geophilosophical orientation and understanding of the media—of semiocapitalism and the general intellect—that does not get caught up in the descriptive vortex of hermetic, self-referential terms and endogenous categories that collude in the fetish of presenting the mediasphere as a disembodied, ethereal and immaterial phenomenon.[24]

As it stands, there exists a proliferation of theoretical prisms—concepts, arguments, diagnostic tools, neologisms—that attest to an epochal shift and new configuration of capitalism that fully integrates the sphere of linguistic activity, affective propensities, abstract knowledge and communication into its regime of accumulation as the central force in the production process: "immaterial labour," "noopolitics" (Lazzarato), "general intellect" (Marx), "loquacious factory" (Virno), "creative factories" (Raunig), "communicative capitalism" (Dean), "semiocapitalism," "cognitariat" (Bifo), "psychopolitics" (Han), "attention economy" (Citton), "cognitive capitalism" (Moulier-Boutang), "cyber-proletariat" (Dyer-Witheford), "language economy" (Marazzi). There

[23] Nelson and Braun, "Autonomia in the Anthropocene: New Challenges to Radical Politics," 225.

[24] Parts of this particular argument are not anything spectacularly new. There are a number of critical polemics waged against Autonomist thought on account of its theoretical suture to a constellation of concepts like "immaterial labour," a "smooth" Empire and a "cognitive" capitalism that all seem to negate the persistence of hard, material work, ecological degradation, rifts between the global North and South, as well as the "peripheral Fordism" operative in low-waged and hyper-exploitative zones that provide cheap labour. See, for instance, the following: Gopal Balakrishnan (ed.) *Debating Empire* (2003); Jodi Dean and Paul Passavant (eds.) *Empire's New Clothes: Reading Hardt and Negri.* (2003); George Caffentzis "The End of Work or the Renaissance of Slavery? A Critique of Rifkin and Negri" (2003); David Camfield "The Multitude and the Kangaroo: A Critique of Hardt and Negri's Theory of Immaterial Labour" (2007); Nick Dyer-Witheford *Cyber-Proletariat: Global Labour in the Digital Vortex* (2015); Sara Nelson and Bruce Braun "Autonomia in the Anthropocene: New Challenges to Radical Politics" (2017).

also exists—concomitantly—a whole new host of ethereal actors and mediatic creatures that multipy within the expanding domain of the digital universe: "algorithms," "data," "computers," "information," "cellular phones," "networks," "social media platforms," "neurochemicals," and infinite streams of "audiovisual content." As Andrew Culp has pointed out, it seems as though we live in the age of angels, surrounded by a myriad of invisible messengers who "crisscross the sky" and are "tasked with communication, connection, transmission and translation."[25] These angelic beings compel us with the nervous injunction to click, like, act, comment and poke. We are caught up in a giddy regime of compulsory expression, hyper-productivity and overexposure that attempts to extrovert the creative recesses of our interiority as a means to extract surplus value and generate infinitudes of content and knowledge for social media platforms, creativity industries, universities and finance. This is what Franco 'Bifo' Berardi calls "putting the soul to work" and the "pathologies of hyper-expressivity" that characterize the demands on subjectivity made by semiocapitalism.[26] We might also just call it the primitive accumulation of the soul.

Semiocapitalism is defined exclusively in terms of a tormented "sociology of inwardness" or "metaphysics of subjectivity": it "takes the mind, language and creativity as its primary tools for the production of value" in the digital sphere of exploitation.[27] "Semiocapital puts neuro-psychic energies to work, submitting them to mechanistic speed, compelling cognitive activity to follow the rhythm of networked productivity" to the point that "cognition is stressed to its limit."[28] Despite Bifo's grandiloquent exposure of a "phenomenological deficit" rampant in both the digital culture of semiocapitalism, Autonomist Marxism's and Accelerationist Marxism's myopic fetishes with immateriality, technology and the logosphere, arguing that semiocapital undeniably stifles the aesthetic, emotional and corporeal dimensions of the social organism, he reduces semiocapitalism to the *neuro-psychic stratum of social labour* that is caught up in the endless production, elaboration, distribution, manipulation and interpretation of signs and informational units. His mediasphere is about the manipulation of signs and desires. It lacks mineshafts—a pre-mediatic depth and the geopolitical corporeality of sweatshops that both haunts the hyperreal epidermis of the digital surface and makes it possible.

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[25] Culp, *Dark Deleuze*, 4.
[26] Bifo, "The Pathologies of Hyper-expression, Discomfort and Repression," http://eipcp.net/transversal/1007/bifo/en.
[27] Bifo, *The Soul at Work*, 21.
[28] Bifo, "Cognitarian Subjectivation," 1.

Semiocapitalism is not just about the mobilization of signs and cognitive actors. It is also about the mobilization of rare earths, minerals and geological actors—cobalt (lithium ion batteries), gallium (thin layer photovoltaics), indium (display screens), tantalum (microcapacitors), antimony (electronic optics), platinum (fuel cells), palladium (seawater desalination), niobium (microcapacitors), neodymium (laser technology), germanium (fiber-optic cable)—that sputter across supply chains and make up the composite elements of media materiality.[29] Semiocapitalism is a geological operator. It requires the lithosphere. It requires an immense deterritorialization and reterritorialization of the earth in order to produce the media infrastructure and digital technologies that make possible the "loquacious" horizons of the language economy: "swift communicational transactions" and ubiquitous "[c]ommunicational events are sustained by the broader aspects of geology of media."[30] It is precisely this repressed subterranean relationship between the *cognitive* and the *geological* that remains unthought in Autonomist theory. What is more, perhaps, is that this repression is symptomatic of a greater repression active in a philosophical tradition that locates *thinking*—that is, the conditions necessary for its production and re-production—solely in the transhistorical powers of the *cogito*. This is why, in the second chapter, at least embryonically, there is a need to sketch out the pre-history of semiocapitalism (and by extension, the process of Enlightenment) as it is entangled with the geological via machines—from Gutenberg (the printing press) to Zuckerberg (the data center).

One of the implications of the increased symbiotic interdependence of the mediasphere on the biosphere (and vice versa) that thinkers like Jussi Parikka illuminate is that "immaterial events" (language, cognition, desire) can no longer be grounded in an abstract "noumenal subjectivity" (Kant), the "metastructure of the unconscious" (Freud) or "the vibrant biological fluidum of living labour" (Virno). We have to take seriously what Gilles Deleuze and Félix Guattari claim in *What is Philosophy?* about the enterprise of geophilosopy: "[s]ubject and object give a poor approximation of thought. Thinking is neither a line drawn between subject and object nor a revolving of one around the other. Rather, thinking takes place in the relationship of territory and the earth."[31] Thinking cannot be reduced to a cognitive faculty that only concerns the feedback loop of intersubjective experience. Parikka deciphers—or rather, digs—further: the "notion of

[29] Parikka, *A Geology of Media*, 51.
[30] ibid., 49.
[31] Deleuze and Guattari, *What is Philosophy?,* 84.

geophilosophy attaches thinking to its conditions of existence, which are, however, always immanent to the event of thought itself."[32] Desire, likewise, cannot be reduced to a libidinal faculty that only concerns the feedback loop of personological impulses channeled by the socius—a reduction that even revered exegetes of "desiring-machines" (e.g. Eugene Holland, Daniel W. Smith) unwittingly relapse back into as they fail to appreciate that beneath the Spinozist-Nietzschean and Freud-Marxist synthesis operative in *Anti-Oedipus* is a *non-philosophical earth*. Too often, in the Deleuzo-Guattarian critique of psychoanalysis' notion of "desire as lack," desire is subsumed by a new crypto-form of *identity thinking*, that is, under the *identity of production*: the "rule of continually producing production, of grafting producing unto the product, is characteristic of desiring-machines or of primary production: the production of production."[33] Desire produces and is produced. But it also *consumes materials*—oil, electricity, minerals, bodies—in order to continue its passionate circuitry, materials that do not spawn from the philosophical hyperspace of ontology, the "auto-productive real" (of "partial objects") or Spinoza's "divine auto-causal substance" (generating "modes") but geology complicatedly mediated by labour. Both cognition and desire are grounded in and return back to the earth and the exploited labour that helps deterritorialize it in very specific and material ways.

If anything, following Parikka, this chapter is an attempted "katabasis" or exercise in "transcendental geology," one that asks what conditions make the digital heaven of communication, semiotic flows and immaterial labour possible—that is, such a method or approach to semiocapitalism emphasizes the fact that the "materiality of media starts much *before media become media*" and persists after media is no longer media anymore.[34] This geological approach, then, forces us to abandon the hegemonic "image of thought" reified within media studies. Matteo Pasquinelli's luminary *Animal Spirits* (2008) has been acutely instructive in this regard: he argues that media studies have been unable to develop a conceptual paradigm and understanding that can *think* the media *outside* the media because it "reduces and neutralizes the network to a dialectics of two internal coordinates: *(digital) code* and *(desiring) flows*."[35] It remains caught within a configuration of the media as a immaterial entity or frictionless platform of co-operation, informational sharing and smooth facilitator of desiring flows devoid of any negativity,

[32] Parikka, *A Geology of Media*, 21.
[33] Deleuze and Guattari, *Anti-Oedipus*, 7.
[34] ibid., 37.
[35] Pasquinelli, *Animal Spirits: A Bestiary of the Commons*, 15.

asymmetry or conflict; the argument here, however, is that media networks are sustained and reproduced by a spectral geomaterialism of exploited subterranean chains of hardware and hardwork. What Pasquinelli's work also helps unearth—especially for our purposes—are two fetishes or ontological knots that Autonomism remains trapped within and that contribute to its disconnect from the larger material ramifications of collective "human capital," the "digital commons" and the "general intellect" within the Anthropocene: a *new logocentricism of the digital* (the fetish of the sign) and a *neo-Spinozist hydraulic idealism of flows* (the fetish of desire). This new "logocentricism," "digitalism" or "semiotic imperialism" gives ontological primacy to language over other material inputs, outputs and configurations. This new "cult of joy," "productivism" or "hydraulic idealism of flows" gives ontological primacy to creative flows over material resources—the infinite plane of *creating* over the finite complexes of the *creaturely*. While Pasquinelli critiques the mediasphere on the basis of its negation of a "biological surplus," a "global civil warming," I want to push the critique of the mediasphere on the basis of its negation of a "geological surplus," a "planetary global warming." Either way, the message is clear: we need to recalibrate theories of semiocapitalism on a more robust, planetary and politically "material" basis.

The goal of this chapter, then, is to deconstruct the fetishistic aura that has encrusted around the beloved theoretical objects of both Autonomist Marxist scholarship and media studies—the "sign" (semiotic flows, knowledge, language, symbolic orders, digital code, loquacious factories) and "desire" (ontological creativity, the psychosphere, affects, flows of libidinal energy, desiring-machines). This deconstructive effort interrogates network culture and cognitive or semiocapitalism from the vantage point of a "transcendental geology" or, less pretentiously, a geo-material perspective—a perspective that is perpetually downplayed or altogether absent in the analyses of post-Fordist thinkers—in order to establish a different political grammar and epistemological terrain for thinking about the mediasphere, one that avoids focusing on the privileged sites of post-industrial labour and social life. This does not mean that the analyses of cognitive capitalism are unimportant. It simply means that the "sign" and "desire"—notions which bolster and give primacy to the subjectivity and existentialism of the cognitariat— are not the only conceptual devices or indexes for understanding the complex strata that constitute the digital universe (i.e. offline labour and media materiality).

Geology, as a critical apparatus, then, allows us to short-circuit the explanatory templates and push back against the accumulating theoretical attention given to the semiotic imperialism of

the "sign" and fevered energetics of "desire" as they have become reified knots of "non-thinking" within the core of Autonomist scholarship (but also critical theory at large), while at the same time gives us the ability to ground "communicational" and "libidinal" vectors in the tumultuous movements of the earth and global labour. This is not to say that the "sign" (semiotic regimes of expression, knowledge and communication) and "desire" (libidinal energy, affects and desirous loops of valorization) are naively praised by Autonomist thinkers or not important parts of semiocapitalism and the mediasphere. The problem is that even under a surgical gesture or the scalpel of critique these notions retain a fetishistic aura that obscures larger global issues taking place "offline," in the periphery of the global South and outside of the holographic circumference of semiocapitalism.[36] What happens in these ethereal analyses is that they unconsciously reproduce a mediasphere that adheres to a McLuhanite paradigm. The "geophilosophical" line of thought that I propose to deploy here, following thinkers such as Jussi Parikka, Matteo Pasquinelli, Sean Cubitt, Richard Maxwell, Toby Miller and Jennifer Gabrys, is unabashedly anti-McLuhanite: media is not an *extension of man* but rather an *extension of the earth*.[37]

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[36] My use of the term "fetish" here is not purely facetious (as in polemical) or psychoanalytic (as in an irrational hyper-cathexis or fantasy projection onto an object in order to obviate particular confrontations with trauma—where, in our case, that trauma is geology and global labour). It is used in an inflected Marxist sense as the displacement of power onto commodities (money and material things, "products of labour themselves") when in fact this power inheres in the social relations between people (namely, the relation between exploited social labour and capitalists). We think capital moves things when it is instead living labour that does. Thus, social relations are structurally misrecognized as a "fantastic form of a relation between things." Fetishism is often presented as a procedure of "ideological obfuscation," "reification" or the "spontaneous" emanation of the bourgeoise commodity world. To a certain extent this is true: social life functions precisely through the necessity of appearances (appearances would not simply implode in a utopia). What semiocapitalism brings into relief, however, is actually that fetishism is itself an intricate form of work; it is a form of social labour that produces "objective appearances" and "phantasmagoria." In brief, it is the labour that produces the "signs" and "desires" of commodities, the cultural field, libidinal packaging or cosmetic sheath that commodities are folded within. Commodity fetishism is not just that which "attaches" to products of social labour after they are produced. Fetishism is a continuous product of immaterial labour—"products of the human brain"—as such. In both cases, we lose sight of not only "material social relations" but also "material earth relations." Materiality obfuscates itself in condensed objects of desire: the Apple laptop I type on tells me nothing of Congolese cobalt, particles of CO2 or Foxconn suicides contained in its production. This is why to cut through fetishism is it not just a matter of academic "unveiling" but also *radical disassembly* (an inverted "assemblage theory"). Even Deleuze and Guattari's "desiring-machines" (anti-fetishizers par excellence) do not capture this "negative material accumulation" leaking from flows, accumulation that have nothing to do with the "psychic accumulation" around poles of paranoia (Family, State, God, Commodity) but rather the material accumulation of debris, toxic excess and non-re-sublatable anti-production. Against even figures such as Jean Baudrillard and Bifo's re-deployment of his theory of simulacra, we cannot maintain the disappearance of the referent under "semiotic" or "desiring" flows but must rather assert a radical parasitism on the material substratum from all angles.

[37] Parikka, *Anthrobscene*, 5.

1.1 AN ECOLOGICAL DEFICIT: A NEW LOGOCENTRICISM OF THE DIGITAL

The concept of the "general intellect" is integral to Autonomist thought. It functions largely as a means to elaborate or make sense of capitalism's epochal transition from the Keynesian-Fordist paradigm (characterized by features such as the welfare state, full employment and factory work) to the neoliberal and post-Fordist paradigm (characterized by features such as precarity, competition, financialization and immaterial labour), where production processes become more and more "informationalized," "communicative" and "expressive." It is also, importantly, a concept that is extracted from the notorious passages in Karl Marx's *Grundrisse* called "Fragment on Machines." For a myriad of Autonomist scholars, this text is the holy cipher that unlocks a constellation of referent points and hypotheses that make "cognitive capitalism" legible, that bring its paramount tendencies and constitutive elements into relief. One of the main reasons for the manifestation of this "ecological deficit" at the core of Autonomist thought, I want to argue, is the overvaluation of the "Fragment on Machines" in the *Grundrisse* and the seductive concept of the "general intellect" it contains. As Paolo Virno contends in "Notes on the 'General Intellect,'" what "jumps to one's attention now…is the full *factual realization*…of the tendencies described in the *Grundrisse*, without however, any emancipatory—or even merely conflictual—reversal."[38] Although he admits it has lost its revolutionary potential and optimistic energy, he still gracefully salvages the "Fragment" by christening it the "last chapter of a *natural history* of society" and "topographical map of the present."[39] Even though it has lost its prophetic value, it still retains its radiance as an exegetical prism of the present for Virno.

What does Marx presciently elaborate in the 1858 "Fragment"? Marx argues that abstract knowledge—that is, primarily but not exclusively scientific knowledge—tends to become the main driving force of production and therefore renders the monotonous, parcelized and repetitive labour of the assembly line and factory to a residual position.[40] The proletarianization of the muscular system is progressively superseded by the proletarianization of the nervous system, brain and soul: the vital motor of production becomes the "development of the general powers of the human head," "general social knowledge" and "the general productive forces of the social brain."[41] What

[38] Virno, "Notes on the 'General Intellect,'" 267.
[39] ibid., 267.
[40] ibid., 265.
[41] Marx, *Grundrisse*, 694.

Marx is referring to here is the technical-scientific knowledge objectified in fixed capital, that is, knowledge incarnate and embedded in an "automatic system of machinery" that consists of "numerous mechanical and intellectual organs, so that workers themselves are cast merely as its conscious linkages."[42] One of the implications of this is that labour time (that which determines the value of a commodity) no longer functions as the most adequate metric or dynamos for the production of value: rather, "science, information, linguistic communication, and knowledge in general—rather than labor time—are now the central pillars on which production and wealth rest."[43] What matters is the quality, intensity and power of cooperation of the social brain. Nevertheless, as Paolo Virno qualifies, labour time is the "unit of measure in *force*, but it is no longer the *true* unit."[44]

What the power of the "general intellect" or "productive forces of the social brain" is capable of is expressed most centrally in the machinery, technology and infrastructure— "fixed capital"—it brings into existence as ways to organize, connect, control and enhance social life:

> Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc. They are products of human industry: natural material transformed into organs of the human will over nature, or of human participation in nature. They are organs of the human brain, created by the human hand: the power of knowledge, objectified. The development of fixed capital indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the general intellect and been transformed in accordance with it.[45]

There are two kinds of technology that are of particular relevance to Marx because they best express the evolution, development and amplification of the "general intellect." The first one is automated machinery that decreases or devalorizes the importance of "physical labour," "labour-time" and "variable-capital." The worker's physical operations can be replaced and automated by a machine. The other, as Dyer-Witheford points out, is the development of a vast global network—a network of communication and transportation.[46] These machinic networks function to connect, expand and integrate the world market and indicate the extent to which capitalist economies have successfully harnessed the general intellect, whereby the "accumulation of

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[42] ibid., 692.
[43] Virno, "Notes on the 'General Intellect,'" 267.
[44] ibid., 268.
[45] Marx, *Grundrisse*, 706.
[46] Dyer-Witheford, *Cyber-Marx*, 220.

knowledge and of skill, of the general productive forces of the human brain, is…absorbed into capital."[47] The development of automated high-tech machines that eliminate the necessity of labour-time (human labour, "variable capital") and spread over the entirety of the globe to expand markets, likewise, mark the extent to which the general intellect has evolved and pushed beyond traditional forms of wage labour and commodity production (formal subsumption) to a form of labour immanent to capitalism itself, "capital producing its own social and technological conditions without an 'outside' or any limitations" (real subsumption)[48]—the shift from agricultural labour to factory machinery, from factory machinery to automation, from automation to sophisticated bio-algorithms that will eventually be able to emulate the minutest swerves of the soul.[49] As Caffentzis notes, the "epochal" shift from *formal subsumption* to *real subsumption*, according to Hardt and Negri, is managed by capitalism *only on the basis of* the "increasing employment of the 'General Intellect' and 'immaterial labor' in the production process and a regime of control over the reproduction process."[50]

Subsumption refers both to capitalism's genesis as a mode of production (e.g. primitive accumulation) and, what can be called, to use Nick Land's phrase, *a process of market immanentization*—that is, how in the expansion of the world market via disciplinary practices of neo-imperialism *capital internalizes its outside*.[51] Hardt and Negri illustrate the distinction between formal and real subsumption in the following manner:

> Marx uses the term 'formal subsumption' to name processes whereby capital incorporates under its own relations of production laboring practices that originated outside of its domain. The processes of formal subsumption are thus intrinsically related to the extension of the domain of capitalist production and capitalist markets. At a certain point, as capitalist expansion reaches its limit, the processes of formal subsumption can no longer play a central role.... Through the real subsumption, the integration of labor into capital becomes more intensive than extensive and society is ever more completely fashioned by capital.... In other words, the realization of the world market and the general equalization or at least management of rates of profit on a world scale cannot be the result simply of financial or monetary factors but must come about through a transformation of social and productive relations.[52]

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[47] Marx, *Grundrisse*, 694.
[48] Read, *The Micro-Politics of Capital*, 112.
[49] See Francis Sanzaro, *Society Elsewhere*. He argues that software algorithms will replace human decision making (consciousness, political governance), the vagaries of love (via more advanced dating apps) and even aesthetic prowess (machines that can—already—given enough data perfectly emulate Rembrandt's style to produce a "new" Rembrandt painting).
[50] Caffentzis, "Immeasurable Value?: An Essay on Marx's Legacy," 113.
[51] Hardt and Negri, *Empire*, 254-255.
[52] ibid., 255.

For instance, the putting-out system characteristic of textile manufacture or share-cropping omnipresent in 17th Century western Europe is a nice example of the formal subsumption of labour by capital. With the putting-out system (the domestic or workshop system), merchant-employers would "put out" various raw material inputs to rural producers "who continued to work with archaic production techniques" and then "collect textile outputs to in turn sell them on the world market."[53] The merchants did not systematically engineer or tamper with the production process. The invention of the sewing machine (1846), however, changes this process—as does Frederick W. Taylor's "scientific management" (1882) and Henry Ford's application of the "assembly line" (1913). Likewise, if we contrast these instances of proto-industrialization and the Industrial Revolution, the post-Fordist regime of accumulation surpasses their application of techno-scientific knowledge as a form of biopolitical domination and intensification in the workplace (real subsumption): as Caffentzis remarks, real subsumption is present in the ways "that human psychology (social and individual) can be used to make workers more productive and put the results to practice. Such managers never let the production process rest"—or, moreover, the soul.[54]

To begin with, capital draws into its domain a labour process that pre-exists it—including a series of existing techniques, markets, equipment and workers. This is formal subsumption. The labour process continues much as it did before, with the exception that capitalists privatize the means of production so that workers are cut off from their means of subsistence and thus *compelled* to subject themselves to the wage relation. There is "little effort made to increase the productivity of labour and so the productive (and reproductive) routines and techniques used are largely 'as is'"[55] A consequence of this, however, is that the primary way to increase surplus value extraction is through "absolute surplus value"—in other words, by expanding the length of the working day. Due to the fact that there is "little investment in equipment, the *organic composition* (the ratio of constant capital to variable capital, i.e., investment in machines and plant with respect to the wage bill) is relatively low in most industries" and human labour functions as the primary input—that is to say, surplus value relies heavily on how it applies, disciplines and exploits "labour-time."

[53] Caffentzis, "Immeasurable Value?: An Essay on Marx's Legacy," 113.
[54] ibid., 113.
[55] ibid., 119.

As we know, however, capitalism cannot develop at the rate it needs to on the limited foundation of the pre-existing forces of production it happens upon. Capital needs to create a labour process isomorphic with itself. Therefore, it progressively transforms social life, subjectivity and modes of work until they are meticulously imbued with the essence and needs of capital—until life and labour are *really* immanent to capital. With the process of real subsumption, the general intellect develops a greater role in the production process: "there is a 'revolutionary' application of science and technology to the production process making it possible to decrease the necessary part of the working day and to intensify its productive density (hence producing *relative surplus value*)."[56] Value, according to the Autonomist hypothesis, is created less by the "socially necessary labor-time" that congeals in a commodity than by globally co-ordinated immaterial labour that communicates "across continents via informatic planning and is increasingly directed at biopolitical objectives."[57]

The revolutionary ambivalence that flickers within the "Fragment," then, lies in the fact that by "setting in motion the powers of scientific knowledge and social cooperation, capital ultimately undermines itself."[58] It does this because, through an advanced system of automated machinery and mode of social organization that utilizes it, the need for labour-power is significantly reduced. The "very basis of capitalism" is in turn up-ended; the fact that people have to sell their labour in order to reproduce their existence (which is one of the defining features of the capitalist mode of production) could become obsolete (due to technological advances that replace mundane productive tasks) radically upsets the "ontology" of capital.[59] Private ownership and wage labour appear as fundamental impediments to the full development of techno-scientific achievements, achievements which rest upon an efflorescent intellectual and social community (the general intellect). Automation coupled with a vibrant expansion of socialization processes (education, free-time for developing subjectivity, production of stimulating and shared common spaces, etc.) carry within them the ability to eliminate private control over the means of production and wage labour. This potential, however, has not come to fruition. What we see instead are mass unemployment, the creation of indebted subjects and new forms of exploitation that subsume a whole range of subjective processes—language, habit, experience, knowledge, affect and desire. The emergence

[56] ibid., 119.
[57] ibid., 113.
[58] Dyer-Witheford, *Cyber-Marx*, 220.
[59] ibid., 220.

of a new regime of accumulation was spurred by a reaction on part of the capitalist class to the fiery amplification of proletarian struggle, mass abandonment from factories and the refusal to work that started in the 1960s and climaxed in 1977 in Italy. In response to these failed revolutions, the political economy of "post-Fordism, hinging as it does on the *general intellect* and the multitude, puts forth, *in its own way*, typical demands of communism (abolition of work, dissolution of the State, etc.). Post-Fordism is the communism of capital"—the *simulation of communistic elements* par excellence.[60]

Paolo Virno, Christian Marazzi, Franco "Bifo" Berardi and Maurizio Lazzarato among countless others, take Marx's concept of the general intellect one step further by redepositing it back into the radiant biological substratum of living labour as opposed to it just being concretized in the one-dimensional system of "fixed capital": in "post-Fordism the *general intellect* is not fixed in machines, but in the bodies of workers."[61] It is proletarian, social and political, not merely a noetic, economic or techno-scientific phenomenon. The general intellect—the relationship between knowledge and production, language and labour—is not exhausted by and cannot be reduced to the life and whirring of machines. The general intellect as such makes profound changes to the development of the social fabric and subjectivity enmeshed within it as capitalism shifts from outside of the four walls of the Fordist assembly line to the dispersed post-Fordist "social factory," from a disciplinary regime of repression (bodily subjugation, productive introversion, enclosure) to an ecstatic regime of expression (psychic stimulation, productive extroversion, connectivity):

> In the period of manufacture, and during the long apogee of Fordist labour, labour activity is mute. Who labours keeps quiet. Production is a silent chain, where only a mechanical and exterior relation between what precedes it and what follows it is allowed, whilst any interactive correlation between what is simultaneous to it is expunged. Living labour, an appendix of the system of machines, follows a natural causality in order to use its power…In the post-Fordist metropolis, on the other hand, the material labouring process can be empirically described as a complex of linguistic acts, a sequence of assertions, a symbolic interaction. This is partly due to the fact that now labour activity is performed aside the system of machines, with regulating, surveillance and coordinating duties; but also because the productive process uses knowledge, information, culture and social relations as its 'primary matter'.[62]

[60] Virno, *A Grammar of the Multitude*, 111.
[61] Marazzi, *Capital and Language*, 44.
[62] Virno, "Labour and Language," http://www.generation-online.org/t/labourlanguage.htm.

Linguistic activity becomes central to the new mode of production that valorizes a form of subjectivity that is linguistically competent, affectively versatile, socially interactive, expressive and cooperative: the "labourer is (and *must* be) loquacious."[63] Capitalism turns to the "sign" not just as a representational code or ideology (à la Žižek et al.) but as a productive unit and creative force (à la Virno et al.)—as its "primary matter."

Communicative action is distributed throughout the entire socius as an irrefutable economic imperative—from Instagram posts to political decision making to data mined for financial speculation, communication is essential to generate value in either its subjective forms ("human capital") or its monetary forms ("profit"). Virno will even go so far as to say that the "dialogical word is seated at the very heart of capitalistic production" and that in order to make sense of post-Fordist working conditions "it is necessary to turn more and more to Saussure and Wittgenstein."[64]

Capitalism itself demands this new logocentricism as part of its renovated production process. However, this turn from "fixed capital"—machinery—in explanations of the general intellect to the interrogation of the semiotic flux of social labour is vitally important, however minor it appears, for the elision of ecological accounts of the post-Fordist epoch. It detaches immaterial labour from geology, spatiotemporal location, mediatic infrastructure, diverse forms of global labour stretched across supply chains and immanence (what we can ventriloquize Marx calling "human participation *in* nature"). This is why almost all of the machines in the Autonomist tradition are "abstract machines."[65] What cascades from this "minor" ethereal pivot are five—to name just a few—major paralogisms that eclipse a more radical engagement with ecology: (1) the hegemony of immaterial labour; (2) the stagist image of capitalist development; (3) primacy of the political subjectivity of the cognitariat; (4) the primacy of semiotic, affective and knowledge

[63] ibid.

[64] Virno, *A Grammar of the Multitude*, 107.

[65] See Maurizio Lazzarato, *Signs and Machines: Capitalism and the Production of Subjectivity*. Lazzarato, in his attempt to short-circuit the semiotic imperialism that language holds in the realm of politics (Rancière), production (Virno) and subjectivity (Žižek), argues that subjectivity is not primarily discursive but mobilizes particles of expression that are non-linguistic, non-epistemic and non-cultural. However, all of his "machines" remain "abstract" components of "affective relationality" that lack material specificity and concretization. They lack a geology and geographic locus that would truly make them "abstract" or "de-subjectified" in the radical sense that Guattari poses in the beginning of his work *The Machinic Unconscious*. We get the usual suspects: computers, ATMs, televisions and cinema machines. Lazzarato's machines exist only to fold back into the anthropogenic drama of subjectivity as existential supports and catalysts for revolutionary amination or capitalist enslavement.

production; (5) the negation of the heterogeneous forms of exploitation—or, the "proletarian multiverse."[66] These critiques have been made before so it suffices to cover them briefly and synoptically before turning to the core arguments of this chapter.[67]

Although Hardt and Negri will claim that "all forms of labor are today socially productive" there is nonetheless "always one figure of labor that exerts hegemony over the others."[68] Therefore, the industrial configuration of labour that dominated the nineteenth and twentieth century loses "its hegemony and in its stead emerged 'immaterial labor,' that is, labor that creates immaterial products, such as knowledge, information, communication, a relationship, or an emotional response."[69] Responding to the critiques of "immaterial labour" and "cognitivist theories" that claimed that this kind of labour only comprised a minor segment of the global labour force, Hardt and Negri affirm that immaterial labour "constitutes a minority of global labor, and it is concentrated in some of the dominant regions of the globe" but that their claim is that "immaterial labour has become *hegemonic in qualitative terms* and has imposed a tendency on other forms of labor and society itself."[70] The problem with this "tendential" speculation is that it implies a teleological destiny with regard to the informatization of production rather than being posited as merely another addition within already existing forms of exploitation. It fails to specify different forms of exploitation and how they interrelate with one another in the global arena as heterogeneous sites for the extraction of surplus-value. As George Caffentzis makes viciously clear, in order for capitalism to counteract the falling rate of profit and stabilize profit throughout the whole capitalist system, the

> branches of industry that employ very little labor but a lot of machinery must be able to have the right to call on the pool of value that high-labor, low-tech branches create. If there were no such branches or no such right, then the average rate of profit would be so low in the high-tech, low-labor industries that all investment would stop and the system would terminate. Consequently, "new enclosures" in the countryside must accompany the rise of "automatic processes" in industry, the computer requires the sweat shop, and the cyborg's existence is premised on the slave.[71]

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[66] Karl Heinz Roth and Marcel van der Linden, "Results and Prospects," 446.
[67] See Marcel van der Linden and Karl Heinz Roth, *Beyond Marx: Theorising the Global Labour Relations of the Twenty-First Century* (2014).
[68] Hardt and Negri, *Multitude*, 106-107.
[69] ibid., 108.
[70] ibid., 109.
[71] Caffentzis, "The End of Work or the Renaissance of Slavery? A Critique of Rifkin and Negri," 128-129.

Computers, cyborgs and informational machines are not "always already there." The "social machines" that enable semiocapitalism to run and that give the "cognitariat" its constitutive specificity *necessarily* rely on a larger material network of hyper-exploitation in the global South and hyper-appropriation of geological affordances.

This "tendential" reading, therefore, invites a "stagist image" of capitalist development—obscuring the role that heterogenous forms of global exploitation play in the constitution of wealth, value and profit. This linear or stagist image of development extracts a previous historical tendency—one concerning industrialization—and projects it into the future: immaterial labour is "today in the same position that industrial labor was 150 years ago, when it accounted for only a small fraction of global production and was concentrated in a small part of the world but nonetheless exerted hegemony over all other forms of production" such that just as "in that phase all forms of labour and society itself had to industrialize, today labor and society have to informationalized, become intelligent, become communicative, become affective."[72] This stagist image is prevalent in a number of theoretical works that attempt to distill the nebulous contours of the present by imposing unilateral schemata of development (a "tendency") rather than positing a more brutal co-existence, stratification or symbiosis in mechanisms of exploitation—the shift from "disciplinary societies" to "control societies" (Deleuze, Lazzarato); the shift from "biopolitics" to "psychopolitics" (Han); the shift from "Fordism" to "post-Fordism" (Bifo, Virno, Marazzi); the shift from "industrial capitalism" to "cognitive capitalism" (Moulier-Boutang); the shift from the "modernization of production" to the "postmodernization of production" (Hardt, Negri). The discovery of a new particle does not replace the rest. It simply joins their ranks: on a global scale "agricultural labour remains the largest category, and the absolute number of…industrial workers has not shrunk."[73] Silvia Federici affirms this when she notes that globalization, rather than shrinking capital's reliance on living labour through "increasing automation of work," has actually expanded the labour market by "destroying subsistence economies...and making millions dependent on monetary incomes"—adding, in the process, approximately two billion people "to the world labor market" in order to cut production costs on a global scale.[74]

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[72] Hardt and Negri, *Multitude*, 109.
[73] Camfield, "The Multitude and the Kangaroo," 24.
[74] Federici, "The Reproduction of Labor Power in the Global Economy," 101.

Lastly, what Bifo calls the "cognitariat" expresses the "social subjectivity of the *general intellect*."[75] The cognitariat is "the social corporeality of cognitive labour"—labour that puts to work all of our linguistic, affective, libidinal and personal capabilities; or, as Bifo notes, labour that "is essentially a labor of communication, that is to say communication put to work."[76] The cognitariat for him expresses a fundamental problem of "de-corporealization" or "desensitization" because of the combined and uneven effects of the "acceleration of network technologies," "cognitive electrocution," "precariousness," "competition between workers," "demands of hyper-productivity," "cognitive stress" and "attention-demanding goods" that hyperbolically compress, disfigure and compact the "sphere of emotion and sensibility" leading to a dysfunctional relation to one's own body and to the bodies of others—furthering the problem of proletarian recomposition, collective struggle and solidarity.[77] Bifo updates Jean Baudrillard's theory of simulacra—wherein the referent is cancelled beneath the sign—and imbues it with a proletarian existentialism fit for life in the digital universe, the psycho-economic paradigm of semiocapitalism and the Prozac economy. What is cancelled beneath the sign, financial abstraction and exchange value for Bifo is the "body." In this case, Bifo does not want to talk about alienation as it was previously understood—as a symptom of reification. He wants to talk about "de-realization," which refers to the "difficulties experienced by the animated body in reaching the animated body of the other: *a pathogenic separation between cognitive functions and material sociality*."[78]

Thus, while he manages to expose a "phenomenological deficit" in Baudrillard and the psycho-economic paradigm of semiocapital, Bifo is unable to reinterpret the referent as anything other than flesh, body or sensibility. The cognitariat is still the tragic protagonist caught up in the "whirlpool of the sign" or "claustrophobia of the code."[79] Bifo fails to see that the machine is also "de-corporealized" beneath the imperialism of the sign because the machine (computer, smart-phone, automated robotic factory) is coded within the context of the *Grundrisse* as a complex of "techno-scientific knowledge" and "fixed capital," where machines are a product, conduit and vessel of the "general intellect" rather than a product of labour that traverses geographies, rare earths, supply chains and global factories. For Autonomists, the machine and sign are isotropic

[75] Bifo, *The Soul at Work*, 35.
[76] ibid., 105, 86.
[77] Bifo, "Cognitarian Subjectivation," 1-2.
[78] Bifo, *The Soul at Work*, 109. My emphasis.
[79] Pasquinelli, *Animal Spirits*, 68, 71.

partners in the subjugating application of modern power relations. The "sign" —much like it does in cyberspace—saturates the whole theoretical and attentional field of Autonomism's analysis: apparatuses of domination (sign as power), techno-linguistic machines (sign as fixed capital), the productive capacity of living labour (sign as potency) and the limit of the world (sign as possibility) all orbit around one valence of its magic. The "sign" detaches from its mooring and becomes *an autonomous force in its own right*—in other words, a *fetish*. Hence, even the critique of the sign functions as its negative cheerleader. Critique aporetically merges with fetish.

1.2 SPECTRAL MATERIALISM: THE GEOLOGY OF THE GENERAL INTELLECT

The machine is persistently rendered in Autonomist thought as a "linguistic machine"[80]: the general intellect within the era of networked production forms a closed circuit, an interfaced assemblage or feedback loop between the *bio-psycho-linguistic flux of living labour* (linguistic performances, cooperative interaction, symbolic expression, knowledge) and omnipresent *linguistic machines* (computers, smartphones, robotic machinery, information technologies) that can incarnate, grammatize or facilitate this fractal swarm of communicative labour in order for semiocapitalism to organize, control and extract surplus value from a myriad of different points, nodes or episodes in the process. Language is a continuous social assembly line of mouth, mind and machine.

As we have already noted above, Marx claims in the "Fragment" that "nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc. They are products of human industry: natural material transformed into organs of the human will over nature, or of human participation in nature." I want to pause over this passage and de-emphasize the primacy that Marx imbues "human industry," the "human brain," and the "power of knowledge" with in order to reconsider the "natural material" that grounds the techno-organs of human will and anthropogenesis. I want to does this without, however, negating the obvious fact and important role that techno-scientific knowledge, chemistry, the geological sciences and media technologies play as epistemological frameworks that allow one to "perceive, simulate, design, and plan in terms of the environment and the climate."[81] The goal of this section is to elaborate the "transcendental geology" that is at work in semiocapitalism—that is, how digital culture, technological machines

[80] See Marazzi, *Capital and Affects*, 30-35.
[81] Parikka, *A Geology of Media*, 60.

and the general intellect exploit, mobilize, deterritorialize and reterritorialize the earth in order to function as such. It is also a minor elaboration of "spectral materialism," a materialism (contra the "enchanted" theories of new materialism) that emphasizes how media materiality, global labour and chemical toxicity upsets the imaginary surrounding digital culture, immaterial labour and the general intellect.

It is precisely these methodological prisms that enable Parikka to claim that computers "are a crystallization of the past two hundred years to three hundred years of scientific and technological development, geological insights, and geological affordances."[82] We could push this perspective even further as McKenzie Wark does: from the vantage point of the rocks themselves, "computers are a working out of the potentials of a vast array of elements and compounds that took billions of years to make but only decades to mine and commodify—and discard."[83] Wark will also seductively claim that "history is a process in which collective human labor transforms nature into a second nature to inhabit."[84] This second nature lays the ground for the next imbrication, which is the "third nature" of informational strata that than feeds back into the second nature (historico-geography of dwelling) and first nature (the biosphere), transforming all the other strata in complex, byzantine circuits of interaction, entanglement and symbiotic friction: there is "no information to circulate without a physics and a chemistry."[85] The goal, nevertheless, is not to lose sight of the labour, social totality, and mode of production that propels and mediates these processes.

What Parikka and Wark help catalyze or draw out is an epistemological framework that moves us outside of the endogenous categories, mise en scénes and critical approaches to post-industrial social life and the mediasphere—"sign" and "desire"—into the conceptual domain of "strata." It allows us to hijack the "geophilosophical" and "ecosophic" spirit of Deleuze and Guattari's *A Thousand Plateaus*—with its terrestrial lexicon of fossilized strata, geology of morals and sedimentations—and bring it to bear in a more thematized manner on the "psychopolitical" and "libidinal" spirit of *Anti-Oedipus* and "Postscript on the Societies of Control" that still resonate and supersaturate the variegated analyses of Autonomist scholarship. It is impossible to read *Empire*, *Multitude*, *Commonwealth*, *The Soul at Work*, *And: Phenomenology of the End*, *Experimental Politics* and *Signs and Machines* without triggering the looming presence of the latter texts. Even the "rhizome" of *A*

[82] ibid, 137.
[83] Wark, "A Geology of Media: On Jussi Parikka," http://www.publicseminar.org/2017/02/parikka.
[84] ibid.
[85] ibid.

Thousand Plateaus is de-vegetalized and electrified as it comes to represent the logic and form of networked systems and the revolutionary heterogeneity of the "multitude." "Strata," then, help us get out of the "libidinal," "cognitive" and "linguistic" economies that have come to dominate the discourse around media without completely jettisoning their necessity and value.

The geontological notion of "strata" enables us to investigate how the material and temporalities of the earth are folded inside digital culture in order to constitute a vital operation of its *grounding*. Deleuze and Guattari will call strata "judgments of God" because they function as "acts of capture" that imprison, lock or fix the unstable matter of intensities, molecular life and singularities into regulated systems or "molar aggregates"—that is, actualities, empirical objects or individuations. However, because they give ontological primacy to creative flux, deterritorialization and "permanent revolution," they effectively "undermine" the auto-enriching features of mediation ("capture," "form," "strata"). There is at times an immense poverty in pure flux—a slippery nomad devoid of qualities, cathexis or pause. Of course, their point is still well taken: the earth is not the ground beneath our feet. It is not the divine consistency or ultimate substratum that guarantees stability, equilibrium or homeostasis. As Iain Hamilton Grant illustrates,

> the earth is not an object containing its ground within itself, like the preformationists' animal series; but rather a series or process of grounding with respect to its consequents. If geology, or the 'mining process', opens onto an ungroundedness at the core of any object, this is precisely because there is no 'primal layer of the world', no 'ultimate substrate' or substance on which everything ultimately rests. The lines of serial dependency, stratum upon stratum, that geology uncovers do not rest on anything at all, but are the records of *actions* antecedent in the production of consequents.[86]

The process of grounding and ungroundedness reveals that a "transcendental geology" of media is more akin to a complex of shifting ungrounds, "serial dependency" and "dispersed geological actors"—geological particles that end up in the computer hardware or computer particles that end up as fossils or sediment in the lithosphere. Semiocapitalism appears not merely as an socio-economic paradigm that has subsumed the "soul" but a vast "geoengineering" or "terraforming" project that envelops the entire planetary system: a "century ago, or even half a century ago, less than 12 materials were in wide use: wood, brick, iron, copper, gold, silver, and a few plastics" but post-industrial production now requires a vast array of different substantial material to make its

[86] Grant, "Mining Conditions: A Response to Harman," 44.

products—such that, a "modern computer chip, for example, employs more than 60 different elements. This use of materials is not a whim of the designer, but a carefully calculated effort to achieve increasingly high performance in products simple to complex."[87]

Deleuze and Guattari will go so far as to say that there is "no biosphere or noosphere, but everywhere the same Mechanosphere. If one begins by considering the strata in themselves, it cannot be said that one is less organized than another."[88] The strata are "extremely mobile" and one "stratum is always capable of serving as the *substratum* of another, or of colliding with another."[89] The strata are thickenings and coagulations of the earth—both made up of molecular and molar elements that combine dynamic material flows and sedimentations. However, despite claiming that there is no "real" distinction between what would constitute as the "biosphere" or "noosphere," Deleuze and Guattari will distinguish three "major strata"—physiochemical (matter, flows, particles), organic (biosphere, ecosphere, life forces) and anthropomorphic (culture, history, production).[90] The geontological notion of "strata" deflates the hegemonic character that Hardt and Negri ascribe to immaterial labour, the cognitariat and the techno-social features of the general intellect. We cannot talk about the noosphere in isolation from the other imbricated frictions, collisions and co-dependences formed with the other strata.

Matteo Pasquinelli makes this clear in reference to concepts more intimate to Autonomist thought—namely, "the common" or the sphere of knowledge and ideas that constitute the shared communicative space that the contemporary multitude produces. "Strata are the different matters that constitute the commons. From the most material to the most immaterial, *the habitat of human civilization can be described in a schematic geology* composed by energetic, biological, technological, linguistic, mythological strata."[91] The "commons" is often popularized under terms such as the "digital commons," "immaterial commons" or "creative commons." It also has more nuanced philosophical topologies already touched upon—the "general intellect" (Marx), "cultural capital" (Bourdieu), "collective symbolic capital" (Harvey). Pasquinelli wants to situate the history of the common in terms of the dark subterranean currents of "surplus," "living energy," "biomorphic

[87] Graedel, Harper, Nassar and Reck, "On the Materials Basis of Modern Society," 6295.
[88] Deleuze and Guattari, *A Thousand Plateaus*, 69.
[89] ibid., 502
[90] ibid., 502.
[91] Pasquinelli, *Animal Spirits*, 50. My emphasis.

excess" or the "energetic unconscious." One way that he does this is by reinvigorating the "negative" and reading the commons in terms of conflict, friction and asymmetry.

The commons are always dependent or parasitic on the material strata they operate on and not smooth, harmonious spaces of interaction: a structural friction pervades the commons, one that always entails "an exchange, accumulation or dissipation of energy, in particular of surplus value."[92] One the one hand, we have the asymmetry of profit extraction. On the other, we have the asymmetry of political struggle and sabotage. "The stratification of matter and human activity is crossed by a living energy that is constantly accumulated, parasitized and sabotaged along asymmetrical forms and frictions."[93] Every stratum is parasitic on other strata. Every stratum draws from a surplus generated by the others—all the way down. One is tempted to read Pasquinelli's parasite in a Spinozist-Schleiermacherian vein: "consciousness is the absolute feeling of dependence on God." God being the infinite causal network of imbricated strata. This is why it is somewhat disingenuous for Hardt and Negri to label global capitalism as a macro-parasite that only siphons from the illustrious immanence of the general intellect, living labour or the multitude without fully addressing the parasitic relation that the multitude, living labour and general intellect have with ecology, the global South and mediatic infrastructure's reliance on geology at large.

To think the geology of the general intellect in terms of strata, then, is to think of it from the vantage point of media materiality—a pivotal intersection of earth material, labour and communication: according to a 2008 study, "the proportion of the world's metals going into media technologies was 36 percent of all tin, 25 percent of cobalt, 15 percent of palladium, 15 percent silver, 9 percent of gold, 2 percent of copper, and 1 percent of aluminum."[94] These metals traverse supply chains that are "complicated by a globally diffuse informal sector—which consists of artisanal and small-scale mining," a "notoriously harsh, low-tech, poverty-driven sector" that is primarily concentrated in "Africa, Asia, and Latin America, where about a million children labor in mines"—the majority of which, in places such as the Democratic Republic of Congo, labour under the threat of mercenaries and soldiers who enslave them using intimidation tactics such as rape, violence and murder.[95] These metals and minerals (for instance, coltan) are then either refined in Chinese-owned plants that reside in the Congo or exported back to China to be smelted

[92] ibid., 51.
[93] ibid., 51.
[94] Maxwell and Miller, *Greening the Media*, 93.
[95] ibid., 93.

there. The processed ore is then sold on the international market as tantalum, "a core component in capacitors that end up in phones, computers, games, and media-production equipment."[96]

All of this amounts to nothing less than a form of geological racism or environmental colonialism that reifies—makes real—the antiquated philosophical dualism of "mind" and "body." "The late-twentieth century system assigned poor regions to make the 'low-value' constellation of pieces and parts of a device, whereas richer regions were given 'high-value' research, development and marketing."[97] But the metaphysics of metals continues.

Dyer-Witheford gives an adequate account of semiocapital's complicated process of "strata" imbrication by tracing the production processes of mobile phones. He delineates fives central phases: "extraction, assembly, sale, service and disassembly."[98] The extraction process, as I have already touched upon, involves the violent deterritorialization of the earth (the infamous blood mineral, coltan, for instance) in places such as the Congo.[99] The conflict-ridden mineral came to public notoriety in the global North when the 2000 Christmas release of the PlayStation was delayed due to supply shortages; however, as Dyer-Witheford notes, though "game consoles broke the coltan story, since 2000 cell phones have been the 'main attractor' for the mineral."[100] Extractive economies are essential to semiocapitalism:

> South Africa's infamous Marikana mine, where in 2012 34 striking miners were killed by security forces, produced platinum, a mineral of which more than a third of the world's output is used in computer hard-drives. In Bolivia, mines producing the lithium used in batteries for mobiles and computers have seen recurrent disputes over both lithium miners' wages and conditions and indigenous people's rights to control of resources. China's mines for rare earths vital to smartphones are highly toxic. Mobile's mineral components emerge out of such contexts.[101]

These minerals are then sold and moved to sites of assembly and manufacture. At times we are seduced by the "tendential" argument laid out by Autonomists that would have us believe that the "factory" has disappeared. This could be further from the truth; rather, what we have is an exported "spectral geomaterialism" or "peripheral Fordism." As Richard Maxwell and Toby

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[96] ibid., 94.
[97] ibid., 97.
[98] Dyer-Witheford, *Cyber-Proletariat*, 105.
[99] It should be noted that, unlike in the hyperspace of metaphysical discourse, academic exegesis and art, deterritorialization is never a smooth, cleanly experimental or avant-garde process. We should also keep in mind the Deleuzean concept of "cruelty" when referring to his notions of "deterritorialization" and "immanence."
[100] Dyer-Witheford, *Cyber-Proletariat*, 106.
[101] ibid., 106.

Miller remind us, ethereal concepts such as "knowledge worker, immaterial labour, creative industries, and cognitariat are of little use to explain the situation in Foxconn's Shenzhen factory," given that it is a place "where wages where at the minimum allowable by law before the suicides, overtime exceeds legal limits and is often not paid, a totalitarian polity and company controls everyday life."[102]

The analysis of semiocapitalism often talks about the complete co-linearization of life-time with work-time (real subsumption). Unlike the compartmentalized blocks of time (the nine-to-five shift) in the Fordism regime, the creative activity of the cognitariat stretches out into an indeterminable amorphous temporal flow of productivity, learning, research, experience and epiphanic stimulation. The brain-computer never fully shuts off—recording and condensing life experiences into quasi-eternal crystals of time (inorganic memory) that could then find themselves being integrated into a "project," "human capital" or the "firm." It should be noted, moreover, that during the production of the first iPads Chinese workers were under such pressure "that shifts were twelve hours a day/seven days a week for six months with a rest day every thirteen days an no weekend overtime premium."[103] This is not even to mention the "deep time" of the earth being condensed into a form of "proletarianization"—that is, "deep time" being put to work for profit.

The next two stages— "strata"—that Dyer-Witheford outlines are "sales" and "support." I want to side-step his discussion on these processes and turn to a larger critical discussion of "immaterial labour" and "machinic subjectivity" and the role they play in the "production of desire." Here desiring producing work is what Lazzarato defines as "the labor that produces the informational and cultural content of the commodity," that incorporates a panoply of activities "involved in defining and fixing cultural and artistic standards, fashions, tastes, consumer norms, and more strategically, public opinion."[104] But more importantly, though in conjunction with immaterial labour, what is critiqued is the "connectivist" and "hydraulic" assumptions grounding mediatic life, the multitude and process ontology (à la Deleuze and Negri).

1.3 DARK VITALISM: THE GEOPSYCHOPOLITICS OF EXHAUSTION

Deleuze and Guattari claim that "we always make love with worlds."[105] I want to take

[102] Maxwell and Miller, *Greening the Media*, 96.
[103] ibid., 96.
[104] Lazzarato, "Immaterial Labour," 132.
[105] Deleuze and Guattari, *Anti-Oedipus*, 294.

this claim seriously and push it to its conceptual breaking-point. The world is the nebulous structure of connections engineered by "desiring-machines," which are defined precisely in terms of their non-judgmental "capacity for an unlimited number of connections, in every sense, and in all directions."[106] Desire is the capacity for continual auto-expansion (production) in the determinate conditions of the assemblage it is immanent to or circulating within. The world is the residual (phenomenal, empirical, phantasmal) emanation that stems from desiring-production and the connections or disconnections it makes. Desire is neither *lack* (innate subjective frustration or an imaginary projective system of object substitution that ensues due to a primordial deficiency or split in the heart of a being that cannot get what it wants), nor *synonymous with pleasure* (seeking teleological and homeostatic relief in anticipated expenditure or orgasm) nor *pure undifferentiated chaotic energy that needs to be tamed, formed or controlled*. Lazzarato expounds this notion of desire most lucidly in his critique of Bernard Stiegler's model of sublimation, which renders desire a drive-based chaos and naturalistic instinct in need of mediation by the public power of culture:

> Desire is not centered around individuals and does not result from the simple interaction of drives or individual "conatuses" (intersubjectivity). Desire does not come from the inside of the subject. It is always born from the outside, from an encounter, a coupling or an assemblage. The classical conception of desire is abstract, since it is extracted from the assemblage of a desiring subject and a supposedly desired object, while we never desire a single someone or something, but always a person or a thing in an ensemble constituted of a multiplicity of objects, relations, machines, humans and signs. It is the assemblage and not the individuated subject that make someone or something desirable. We never desire a someone alone or something alone but worlds and possibles.[107]

Desire is the immanent force of a radical constructivism that refuses all forms of mediation. It is not natural but "artificial," "social" and "cyborg." "Desiring machines are not in our heads, in our imagination, they are inside our social and technical machines themselves."[108] Desire forms a precarious circuit of animation that is transmitted throughout all of its corresponding parts, relations, breaks and mutations: "the desiring machine is nothing other than a multiplicity of distinct elements or simple forms that are bound together on the full body of society."[109]

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[106] Deleuze and Guattari, "Balance-Sheet for 'Desiring-Machines,'" 96.
[107] Lazzarato, "Some 'Misunderstandings' on Desire," 53.
[108] Deleuze and Guattari, "Balance-Sheet for 'Desiring-Machines,'" 106.
[109] ibid., 111.

Stiegler's vision of desire (essentially, *desire* as culturally structured to care for its object and *drive* as raw consumption and destruction of objects, where capitalism has eroded desire to such an extent that it reverts back to pure-drive based instinct) for Lazzarato is nothing other than an elaborate and crypto-Hobbesian model of desire that renders desire as "state of nature"—war of all against all. Desire is reduced to a flow that needs to be disciplined: a mediator is always required, "a sovereign, a state that makes possible the passage from nature to culture, from war to peace, from savageness to civilization."[110] This is nothing other than libidinal hylomorphism: the raw flux of desire is set against a symbolic order that structures it. Stiegler privileges cultural sublimation and auto-enriching mediation. Deleuze and Guattari privilege radical constructivism and productivism. Stiegler privileges democratic universalism. Deleuze and Guattari privilege revolutionary rupture.

Despite Lazzarato's wonderfully clear expositions of desire and critique of Stiegler, desire is not rendered immanent enough but read under the presupposition of a "revolutionary definition" that preinstalls revolutionary spontaneity, telos and vocation into the hydraulics of desire. Desire is never allowed the positive brutality of its indifference. What does this definition of desire mean in relation to the geomaterialism of the general intellect and the Anthropocene in general? What does desire rupture or break down in pursuit of its productive circulation? *Anti-Oedipus* is only able to deploy a critique that undermines *moral limits* (as Lazzarato's essay paradigmatically shows) but it is unable to undermine *material limits* that expose the ecological shortcomings of a theory of desire isomorphic with Spinozistic "divine auto-causality" or the "autoproduction of the real" (for to talk about limits is not to incarnate the eroticism of the cop, endorse conservativism or posit essences—rather, it is to inject the dystopia of entropy, precarity and ruin into the vitalistic discourse of desire).[111] To speak of material limits is to desuture "rupture" from exclusively meaning "revolution." Desire is often treated as an intoxicated mode of production, connection, animation and power.[112] These next sections attempt to read desire—as a critical supplement to the new materialist theories of "enchantment" and neo-Spinozist theories that fetishize only the enhancing features of "affect" and "power"—as a mode of destruction, subtraction, detachment and extraction. This not to say that Lazzarato's reading is incorrect. I

[110] Lazzarato, "Some 'Misunderstandings' on Desire," 51.
[111] As Frédéric Neyrat notes in "Elements for an Ecology of Separation," a limit "is nothing but *the immanent and material underside of every relation*" (120).
[112] See Andrew Culp's *Dark Deleuze* for further explications and critiques of this neo-Spinozist "cult of joy."

very much subscribe to it. However, it unfairly emphasizes desire as a *mode of production* without addressing it simultaneously as a *mode of destruction*. This asymmetry in emphasis occurs because Lazzarato reads "rupture" (negativity) only as a *form of passage* (to revolutionary possibility) rather than a *cruel process of ruination* (dark vitalism) silently interlaced across the whole movement of desiring-production.[113] There is rarely any talk of detritus in the discourse of desire. The commodity and consumption are also conspicuously absent in Deleuzean accounts. Even media study theorists consistently present desire as a contagious virus that spreads out along the digital surface as a horizontal network of assimilating flows.

Because I will talk about e-waste, rudology and toxic accumulation in the next chapter, it will suffice here to expand on concepts of "dark vitalism" and the "libidinal parasite" (Pasquinelli) in relation to the geomaterial state of affairs concerning "immaterial labour" or the strata of the "noosphere"—that is, to be more specific, how, when we make love with worlds, we always have that capacity to exhaust them; or, to be even more specific, in the context of what has already largely been mapped out in relation to geology, I want to explore the "way the bourgeois fucks the proletariat."[114] This is perhaps one of the most fruitful ways to understand what Deleuze and Guattari mean when they say "we always make love with worlds."

One of the key functions of "immaterial labour" is to produce the force of desire (i.e. the process of valorization) that envelops and circulates the commodity world: it "gives form to and materializes needs, the imaginary, consumer tastes and so forth, and these products in turn becomes powerful producers of needs, images and tastes."[115] The "meta-commodity"—given that its use value is the informational, symbolic, libidinal and cultural content of the commodity—that immaterial labour produces is not destroyed in the process of consumption but rather "it enlarges,

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[113] In *Forget Foucault*, Baudrillard will go so far as to say that desire replicates the exact logic of capital: the "compulsion toward liquidity, flow, and an accelerated circulation of what is psychic, sexual, or pertaining to the body is the exact replica of the force which rules market value: capital must circulate; gravity and any fixed point must disappear; the chain of investments and reinvestments must never stop; value must radiate endlessly in every direction. This is the form itself which the current realization of value takes. It is the form of capital, and sexuality as a catchword and a *model* is the way it appears at the level of bodies." (39-40). Capital always has to circulate (extractively) through a multiplicity of commodities in order to realize itself. Likewise, desire always has to circulate (extractively) through a multiplicity of objects in order to realize itself. The real problem, then, lies in not viewing desiring-production as a form of idealism—a neo-Spinozist hydraulic idealism of flows. Idealism can be identified here in the fact that the finite (object, part, material, sign, human, machine) has no veritable being in relation to the auto-production of desire itself. Creating flux trumps the creaturely form it passes through.

[114] Deleuze and Guattari, *Anti-Oedipus*, 293.

[115] Lazzarato, "Immaterial Labor," 137

transforms, and creates the 'ideological' and *cultural environment of the consumer*."[116] It produces the social relations and subjectivity required by capitalism through the constant formation and reformation of its primary matter—the spiritual metabolism of the individual person. It does not reproduce the muscular, corporeal or physical aspects of labour power. It reproduces the inclinations of the soul (thoughts, affects, language, appetites) through the production of things like audiovisual content, advertising, media and fashion in a gigantic feedback loop that is hooked up to both the "consumer-communicator" and the "immaterial workers" who satisfy the desires of consumers while at the same time stimulating them (all of which is made possible by the social process of communication, information and an expansive sales network that releases highly differentiated product lines). Thus, consumerism is no longer just about the destruction of the commodity in the act of consumption; on the contrary, "the consumer is inscribed in the manufacturing of the product from its conception."[117]

Sean Cubitt zooms out even further and puts immaterial labour and the cultural environment of the consumer into the even larger perspective of *capitalism's reproduction of itself as a global system* by analyzing, with an almost cerebral cold-bloodedness, the "geography of this new division of labor" that continues to increase the "spatial divorce" between industrial work and consumptive work:

> Consumption becomes work when…it is not undertaken for the fulfilment of needs or the realizations of aspirations, but as a disciplined function required by capital to remove excess product manufactured in the pursuit of expanded accumulation and growth. For capital to continue to grow, the working class of the wealthy nations now has as its chief function not mass production but the mass consumption of excess product…. Consumer discipline, unlike factory discipline, instructs us not how to operate socially but how to operate antisocially: from mode of production to mode of destruction.[118]

Dark vitalism is the unconscious of semiocapitalism and metropolitan consumerism. We tend to think of the consumer in isolated terms of a bourgeois, egocentric subject who lavishly spends their wages. Following a thinker like Bataille, however, we have to say that *everything is a decadent metabolic engine*. Desiring-machines do not only produce. They also inherently consume, waste and destroy—and this consumption has nothing to do with the "shopaholic." The Swedish conglomerate, Ikea, for instance, alone consumes 1% of the globe's wood annually, a majority of

[116] ibid., 137. My emphasis.
[117] ibid., 140.
[118] Cubitt, *Finite Media*, 108-109.

which is not sustainably harvested.[119] The "productive circuits" and "capillaries" of desire that surge throughout the global North are not identical to the ones "surging" throughout the global South—and yet they are irreversibly connected because the whole material infrastructure of semiocapital depends on their withdrawn, spectral presence as producers. Semiocapitalism, instead, purports that it derives its wealth from "handling symbols" in two primary sectors: one is through the "international regimes of patents, copyrights, trademarks, and designs" and the other is through "finance and computerized algorithmic ('algo') trading."[120] Those who are not fortunate enough to levitate at the center of the general intellect and financial capitalism either work to "produce a diminishing amount of the exchange value in each commodity" or are reduced to the ontological wayside as "supernumerary, unregarded, a repressed that returns only momentarily as a news item."[121]

The construction of an energetic or geological interpretation of semiocapitalism means articulating the dense points of intersections where the fluid and turbulent "semiotic" and "desiring" fluxes come into contact with their "outsides." Thus, what defines any system is not the pure functioning of their internal parts but rather the external accessibility to energy they have that enables them to run. Without talking about the external surpluses that operate any particular aspect of semiocapitalism, we risk that desiring "[f]low becomes—like code—an endless and abstract space of linear expansion; it is a cheap form of Spinozian ontology."[122] To talk about dark vitalism, then, is to talk about what desire exploits, mobilizes, breaks down, exhausts and assimilates in its passionate circuits, expansion and assemblage lines. Ian Buchanan, unwittingly confirming Baudrillard's critique in *Forget Foucault* that desire replicates the structure of capital at the libidinal level, affirms the exploitative and exhaustive nature of desire (without, however, problematizing it) in his revealing analogy: "the synthesis of connection is the process whereby *desire exploits the body to its own ends*. In this scenario, *desire is the equivalent of capital*: it owns the means of production, *but lacks the labourers needed to realize its potential*."[123]

Dark vitalism is about the geopsychopolitics of desire's "hardware," the material heterogeneity of the commodity as a "dark attractor" of the exploited labor and earth, as well as

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[119] Gorman, "IKEA uses a staggering 1% of the world's wood every year," https://www.dailymail.co.uk/news/article-2357216/IKEA-uses-staggering-1-worlds-wood-year.html
[120] ibid., 112.
[121] ibid., 112.
[122] Pasquinelli, *Animal Spirits*, 54.
[123] Buchanan*, Deleuze and Guattari's Anti-Oedipus*, 58. My emphasis.

spatial divides inherent within global production. Hardt and Negri's notion about the "hegemony of immaterial labour" and the biopolitical potentialities of a multitude that "self-valorizes" itself and produces social life from within its own immanent power by engineering purely cooperative relations, then, falls short:

> Electricity turns to data, data to communication, communication to desire, desire to money, money to knowledge, knowledge to technology, and so on. The media economy is a symbiosis of different strata, a continuum of horizontal and vertical exchanges, but it is certainly not a flat market based on purely cooperative exchanges.[124]

Dark vitalism means that there is always an element of parasitism when desire performs its operations of "coupling" and "connectivity." What is left out of explications of "desiring-machines" is a detailed map of their "metabolic exchanges" or "entropic features." At times there seems to be no earth in Deleuze and Guattari, only *process ontology*—a philosophical category ("becoming") that cannot be exhausted as such.

If the existence of the cyborg is predicated on the slave, we need to critique the giddy hermeneutics that underpin "desiring-machines" and "machinic subjectivity." This is apparent in the abstract (i.e. non-dialectical and non-problematic) mediatic connectivism that underlies the basic assumption of the multitude, cyborgs and machinic assemblages championed by figures like Negri, Deleuze, Lazzarato and Haraway. The geological and metabolic are repressed when it comes to talking about machines and technicity. We see symptoms of this repression in Hardt and Negri's explication of machinic subjectivity in *Assembly* (2017) despite the acknowledgement of "nonhuman" and "other beings" as components within the assemblage:

> A machinic assemblage...is a dynamic composition of heterogenous elements that eschew identity but nonetheless function together, subjectively, socially, in cooperation. It thus shares characteristics with our concept of the multitude, which attempts to pose political subjectivities as composed of heterogenous singularities—one significant difference being that whereas we usually pose the multitude exclusively in terms of human singularities, a machinic assemblage is composed of a wider range of beings, human and nonhuman. Donna Haraway's conception of the cyborg and her various efforts to combat identity and essentialized subjects lead her further in this direction, recognizing the breach in our standard divisions between humans and machines and between humans and other animals. But machinic assemblages extend the elements of subjective compositions even further to include all beings or elements that reside on the plane of immanence. All of this is based on the ontological claim that places humans, machines, and (now) other beings on the same ontological plane.[125]

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[124] Pasquinelli, *Animal Spirits*, 64.
[125] Hardt and Negri, *Assembly*, 121-122.

Putting aside the fact that Hardt and Negri dilute the machinic by relapsing back into concerns with "anthropogenetic production," "social cooperation" and "fixed capital,"[126] they fail to consider that because the heterogeneous components that make up the assemblage have no "fixed identity" neither do they have frictional *non-identity* (everything just kind of "works together"). The connectivism of beings on the "same ontological plane" negates the specificity of the multiform (unequal, antagonistic) relations operative between the "anthropogenic strata" (humans), the "technical strata" (machines) and "geological strata" (other beings). The power to move—to energize—always falls back on "capital" or "labour," "signs" or "desires," without an adequate figuration about how both are parasitic on geological and non-human energetic surpluses.

Powering semiocapitalism, the immaterial economy and the mediasphere, however, is a dirty business. In order for desire to reproduce itself in its abstract mobility, in order for it to pursue the expansion of the material, techno-cultural and machinic environment of the privileged "consumer-communicator," it requires a larger infrastructure of energy production to be in place—especially one that is increasingly reliant on electricity and petro-capitalism. In 2006, "Google's server warehouse in Oregon was using the same amount of power as a city of 200,000 people, even though Google is considered more efficient than the bulk of the data center industry."[127] In 2011, "upwards of ten billion devices needed external power supplies, including two billion TV sets, a billion personal computers, and cell phones."[128] If global media usage continues at the pace that it is, the International Energy Agency "estimates that electricity consumption by electronic equipment will rise to 30 percent of global demand by 2022, and 45 percent by 2030, " which is problematic since the electrical industry still largely runs on fossil fuels (coal, natural gas, petroleum).[129]

Parikka, like Pasquinelli, reminds us that, contra Bifo, semiocapitalism does not just systematically exhaust the internal equipment and psycho-semiotic resources of the soul—the "infinite creative powers of the human" or, rather, the "still privileged informational workers" of the global North:

> digital culture is also sustained by the rather exhausting physical work in mining, factory production lines, and other jobs that are not directly counted as part of "cognitive

[126] ibid., 122.
[127] Maxwell and Miller, *Greening the Media*, 29.
[128] ibid., 29.
[129] ibid., 30, 28.

> capitalism"—and the machines themselves grow obsolescent and die, their remains leftover media-junk…and ecological resources are exhausted as well, part of the increasing demand for minerals and other materials for advanced technology industries.[130]

The desires flowing in digital culture cannot be reduced to psychology or the intersubjective. If "dark vitalism" exposes desire as a *horizontal process of ruination* or detachment that exhausts or abandons its internal parts, relations, machines and objects in order to joyously function, "libidinal parasitism," similarly, exposes desire as a *vertical-diagonal process of asymmetrical relations* that exhaust or siphon "energetic surpluses" from other strata implicated within its expanding proximity. Both aspects of desire bring into relief the problem of "connectivity" as potentially exploitative rather than as a purely giddy, felicitous and joyous relation of (mutual or symmetrical) empowerment or modal networking.

1.4 LIBIDINAL PARASITES: THE USES AND ABUSES OF PURE DESIRE

The goal of this section is to get us outside the impasse of desire: desire either as a finite resource or an infinite flux. Rather than get stuck in this artificial "either-or," I want to propose that, as a dénouement to this chapter, an "uneven ontology of desire" is operative within semiocapitalism's mediatic and geological regimes—one that, although already largely contoured, takes us back full circle to notions of "strata" and "transcendental geology," allowing us to reconfigure the "transcendental" not merely as an "apriori set of invariable cognitive conditions" regulating the sensible (Kant) or "virtual multiplicity of genetic powers" giving birth to the actual (Deleuze), but rather as an "asymmetrical relation of dependence," unequal exchange and exhaustion (the "transcendental," given its relativism in relation to any system or object, is subject to finitude, time, glitches, spasms, regeneration and ruin, becoming, almost, akin to "fuel"). It also enables us to see that desire is not an infinite flux that is everywhere lingering with ontological exuberance, that desire is not everywhere oozing with the same potentialities, intensity and power. Desire is subject to distributions, concentrations, frackings and blockages (all of which can be given a positive or negative valence on the basis of the context, assemblage, conditions etc.). This notion of the "uneven ontology of desire" is best encapsulated in Pasquinelli's notion of the "parasite," a rich concept that he hijacks from Michel Serres and uses it to undermine vogue French vitalism.

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[130]Parikka, *A Geology of Media*, 92.

Pasquinelli, like Parikka, is suspicious of the widespread belief that the digital realm is a redemptive subtraction or immaterial haven (sublimation) that lifts humanity from the gritty surpluses of material life. He argues, instead, that "semiocapitalism," "cognitive capitalism," the "information economy," or whatever neologism or title one would like to give it, is fundamentally parasitic on a material economy of "surpluses." Surplus defines any system, machine or object "by the excess of energy operating it."[131] The relation surplus has with its corresponding system is rarely (if ever) mutual and always implies a relation of "asymmetry, friction and conflict."[132] Thus, "surpluses" are often negated by the "system" and disregarded because they simultaneously work to make the system operate smoothly and function outside of the parameters of visibility—or, are insidiously kept outside of our critical-perceptive purview. These energy surpluses or sources—whether laborious, proletarian, financial, informational, geological, libidinal, electrical or atmospheric—are what make possible any system. Surpluses, moreover, are not only about energy but also about its accumulation: machines are "systems that both accumulate energy surpluses and consume, transform or dissipate it."[133] Parikka will also echo Pasquinelli here: the "digital is a regime of energies: human energy and the energy needed for technological machines."[134] Surpluses disrupt the smooth functionality that the system (i.e. neoliberalism or semiocapitalism) fantasizes for itself as ontologically complete, sealed off or whole. But the same goes for the ontology of cyberspace and desire:

> Contrary to the notion of flow, the concept of surplus can never be separated from its consumption, accumulation or sacrifice. Surplus includes its *negative*, rather than being an isolated *positive* process. A surplus of energy does not flow eternally—it is temporary like life, it breaks. If the academic interpretation of Deleuze and Guattari's philosophy of desire is still used to idealize network society as a space of endless flows, it is absolutely necessary today to illuminate the dystopian reality of this energy surplus.[135]

So, what then is a parasite, the creature who siphons off the surplus? Serres describes the parasite in terms of an unequal exchange of energy, the way in which one organism extracts more energy, labour or time from another organism than it gives back in return, the way one stratum extracts more from layers beneath or beside. Serres explains how organisms are always stealing

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[131] Pasquinelli, *Animal Spirits*, 54.
[132] ibid., 55.
[133] ibid., 57.
[134] Parikka, *A Geology of Media*, 106.
[135] Pasquinelli, *Animal Spirits*, 55.

energy from each other. From this simple thesis, Serres develops a "universal economy of unequal exchange":

> The parasitic relation is intersubjective. It is the atomic form of our relations.[136]
>
> Man is a louse for other men. Thus man is a host for other men. The flow goes one way, never the other. I call this semiconduction, this valve, this single arrow, this relation without a reversal of direction, "parasitic."[137]
>
> To parasite means to eat next to...The country rat is invited by his colleague from town, who offers him supper. One would think that what is essential is their relation of resemblance or difference. But that is not enough; it never was. The relation of the guest is no longer simple...There is no exchange, nor will there be one. Abuse appears before use.[138]
>
> We parasite each other and live amidst parasites. Which is more or less a way of saying that they constitute our environment.[139]

Pasquinelli gives the parasite a Marxian inflection and picks up on the aprioristic feature of "abuse" and "exploitation." Before there is use-value or exchange-value there is abuse-value (i.e. primitive accumulation, enclosure and proletarianization). Capital requires a surplus in order to reproduce itself—living labour, ecosystems, and "externalities" of all sorts. In terms of tracking asymmetrical tensions and arrows cutting across, dividing and splitting the semiotic-libidinal domain of the mediasphere, we have to constantly throw ourselves into the energetic surplus of the offline in order to account for exploitative absorptions that pass through a continuum of organisms, strata and workers. The mediasphere is an energy system constituted by a complex of non-mediatic "outsides." As a kind of caveat, Pasquinelli will also make clear that the "parasite" is not one-dimensional. The parasite does not want its host to die but generates a symbiotic relationship with it and is not simply an insidious leech (although, keeping the host alive can, at times, be all the more sinister); there are moments of alliance and non-hostility immanent to the parasitic relation that exceed direct exploitation and extortion.[140] Parasitism is not a moralism. Rather, it flickers between two determinations or poles—cruel exploiter and friendly symbiont.

What the "libidinal parasite" opens up in terms of an "uneven ontology of desire," then, rather than regarding desire as "a boundless positive energy" or a force that can "endlessly erode

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[136] Serres, *The Parasite*, 8.
[137] ibid., 5.
[138] ibid., 7.
[139] ibid., 10.
[140] Pasquinelli, *Animal Spirits*, 64.

all structures of control" (as the relentless Spinozisms of Deleuze and Negri do), is a more radical understanding of how semiocapitalism and neoliberalism divide, cut up, structure, accumulate and siphon flows of desire.[141] With the parasite, we supplement the "enchanted universe of production" (Spinoza, Negri, Deleuze, Virno) for the "dark universe of consumption" (Serres, Bataille, Pasquinelli, Parrika).

Pasquinelli uses mediatic phenomena such as Internet porn videos, the simulacra of pop icons and other spectacular machines to explain the function of libidinal parasites as seductive gravitational attractors that "channel and accumulate our libido in a highly physical way. Media parasites absorb our libidinal energies as a surplus and condense it in the form of attention and fetishism towards brands, technology, material and immaterial commodities."[142] But there are other, more complicated forms of libidinal surplus value at work within the geology of media and the planetary divides of global labour that subtract our libidinal bandwidth away from secluded processes of how "desire" is manufactured in the first place. Take, for instance, "the residue products from the processes of fabrication, like the minuscule aluminum dust residue released from polishing iPad cases to be desirably shiny for the consumer market."[143] Or, even, how immaterial labour functions on the international stage: "in Vietnam or Thailand a famous designer buys for three dollars a shirt conceived in Paris or Zurich. The shirt will be sold in the West for forty-five dollars in the name of the 'immaterial designer'" and thanks "to patents, trademarks and intellectual property—that is, to the much higher remuneration commanded by knowledge with respect to material-applied labor—wealth is in fact redistributed to the North."[144] Creativity is ontologically, fetishistically and economically restricted to the commons of the global North. It belongs (legally) to the intellectual and aesthetic consciousness of the cognitariat.

We do not often talk of desire in strictly material or "corporate" terms (businesses desire profit and deterritorialize enormous parts of the earth in order to make commodities—from computers to Ikea furniture—so they can realize that desire). Desire typically has a phantasmagoric texture, egocentric connotation and anthropogenic locus. It seems to be an immensely polished, exfoliated and diaphanous *subjective revelation*, *intersubjective relation or even machinic relationality*—a

[141] Bifo, *The Soul at Work*, 154, 160.
[142] Pasquinelli, *Animal Spirits*, 207.
[143] Parikka, *Anthrobscene*, 18.
[144] Marazzi, *Capital and Affects*, 112.

cupidinous arrow, machinic coupling or personal inner movement exorcised from all molecular negativity, grit or material support.[145] We forget that desire has to traverse supply chains before it gets to the consumer or enters the "psychosphere" in the form of an "abstract" object of enjoyment. When speaking about "desiring-machines," it is better move away from the "residual consumer" or "larval subject" (and its nomadic and ephemeral identity) found in *Anti-Oedipus* and emphasize the *machine* in "desiring-machines," insofar as it enables us (without denying the "dynamic composition of heterogenous elements" or "transversal relationality") to think about how corporate technicity (i.e. factories, data centers, fixed capital, financial computation) operates as a major force of geological exhaustion, extortion and destruction.

Even beyond the desire to produce surplus value, in so far as a desiring flow functions to disrupt a molar or arborescent configuration of the socius (e.g. centralized financial systems) but plugs into a technological infrastructure that gives it a cyborg dimension it becomes problematic: the "cryptocurrency Bitcoin, which is intended to disrupt hierarchical and centralised financial systems, requires the energy of nine US homes to perform a single transaction; and if its growth continues, by 2019 it will require the annual power output of the entire United states to sustain itself."[146] As Cubitt viciously demystifies for us, the "[f]antasy cyborgs look like human beings with technological implants," whereas "[a]ctually existing cyborgs are huge agglomerations of technologies with human implants. Corporations like Enron and FirstEnergy are such cyborgs, composed of non-human actors with human biochips embedded to carry out specialist tasks" (like public relations and human resource management), and whose sprawling machinic agency has at is disposable "electrical grids connecting aggressively active users (who can scarcely be caught in the term *consumers*), the unmanaged turbulence of deregulated and automated markets, and the inhuman drive for corporate profit."[147]

Again, it seems necessary to turn to the provocative formula of *Anti-Oedipus* and read it in geological and corporate terms: "we always make love with worlds." How does capitalism produce desire, insofar as the desire for surplus profit demands immense material consumption, a

[145] Even for Lacan and Žižek, desire is animated by a primordial "lack" (loss or void in Being) that is then determined and constituted by the signifiers of the "Other" or symbolic order, that is, through the "immaterial" organization of signs and never contaminated by the heterogeneous flows that condition its possibility or production. Desire is, in some degree, an auto-animating force beyond the realm of patriarchal code but, nevertheless, the constellation of objects around which desire is organized are always these phantasmal or "imaginary" objects. Psychoanalysis does not understand production but only structures.
[146] Bridle, *New Dark Age*, 63.
[147] Cubitt, *Finite Media*, 34.

consumption that has nothing to do with the "individual"? What material elements does it use, abuse and discard of in the process of "desiring-production"? Desire has a constellation of material traces, minerals and chemicals (from psychopharmaceutic SSRIs to aluminum dust used for polishing Ipads, from serotonin to silicon) grafted onto its quasi-spiritual stomach lining: "plagued by worker suicides, and indexical of the wider health issues having to do with aluminum dust that is a side product of ensuring our iPads are shiny and properly polished, such places are the murky unconscious of gadget culture."[148] Parikka continues the link between desire and materiality: aluminum "itself is one of the primary chemical and metals of technological modernity: its fetishlike shininess defines Italian futurism as much as post-World War II automobile culture" and exposes a paradox in that "the residue of the utopian promise is registered in the soft tissue of a globally distributed cheap labor force."[149] This is an "entanglement" between structured regimes of desire and the materiality of technology that new materialists and cyborgs brutally shy away from. Desire is a complicated parasite that is forever predicated on unequal exchanges. It passes through objects (relations, machines, parts and people) in order to realize and express itself—at the same time things pass through it, supporting or sabotaging it to varying proportions. The extent to which this relationship is extortive or enrichening, of course, depends on the material honesty of our social relations.

The geontology of strata, parasites and a mortal transcendental unit or complex (of conditioning "outsides") calls into question the fashionable obsession with the main tenets circulating within contemporary ecological discourse (especially with figures such as Bruno Latour, new materialists and neo-Spinozists)— "entanglement," "nature as indefinite process," "everything is interconnected," "everything is constructible." There is a certain giddiness and naivete rampant in these theories that utilize the intricate philosophies of "flux" and "becoming" to break down all distinctions (the great divides between "culture-nature," "human-nonhuman") for the sake of a universal "entanglement" and "limitless artificialism."[150] What Frédéric Neyrat also calls the "fantasy of fusion" in his critique of ecological constructivism: the "illusion of the 'end' of the great divides...is nothing but the reinforcement of the movement initiated by the techno-humanistic colonization of modern times," one that can be seen in the industrious operations of "climate

[148] Parikka, *A Geology of Media*, 89.
[149] ibid., 89.
[150] Frédéric Neyrat, "Elements for an Ecology of Separation," 105. See also Andreas Malm, *The Progress of this Storm* for a virulent critique of new materialism, ecological hybridism and constructivism.

geoengineering."[151] We need to be able to think, against compulsory attachments and an excess of pure relationality, negative and asymmetrical relations of indecomposable "detachment," "distance" and "dependence."

Strata are promiscuously interconnected but in asymmetrical ways, scraping up against one another, stealing from one another and generating frictions. Parasites leap from site to site, sucking energy from multiple sources, libidinal deposits of all sorts. Sometimes desire is *exploited* (i.e. libidinal energies are violently directed toward profit). Sometimes desire is *exploiting* (i.e. libidinal energies "capture" geological entities, labourers and machines in order to extract their powers to act or produce). It depends on the assemblage at work. Nevertheless, there is always a gap, a lacuna, a minimal distance that institutes a material (and ontological) limit as the subterranean underbelly of every "desirous relation" in order to establish a *non-identity* between desiring subjects or regimes. Desire is neither a finite resource (Bifo) nor an infinite flux (Deleuze). Nor is it a frictionless network of contagion. Desiring machines function only because they continually "break-down"—where this break-down can be read in the ambivalent catabolic sense of "exhaust" rather than merely as dysfunction or detachment. Desire is an "anorganic energy" (a machinic coupling), "parasitic relation" (an asymmetrical consumption) *and* "material excess" (exploitable resource) that perpetually negotiates a plastic, vibratory or nomadic limit, a limit that circumscribes its locality, its ability to exhaust or be exhausted, a limit that comes into contact with materialities, edges, alterities, strata and outsides of all sorts. The limit is not pre-existing but a kind of negative miracle that spontaneously asserts itself in the advent of any production, construction or connection. It is continuously produced, re-produced and manipulated according to the material affordances that constitute or deplete it.

To say that "desiring-assemblages" articulate a limit, is not to re-inscribe within them a fixed essence or identity—as if this limit was a cop or immunological border protecting a pre-programmed order. It is merely to say that desire is not universally consistent. Its flows are not everywhere the same. It is to stress the (geologically specific) *material* over the (philosophically) *Real*. In line with Deleuze and Guattari's "functionalism," it is not matter of relapsing back into the question of asking what an entity *is*, what it *means*, or what it *represents*. But it is also more than what an entity *can do*—that is, what potentiality of connections linger in its virtual horizon: "[o]nly

[151] Frédéric Neyrat, "Elements for an Ecology of Separation," 105.

desiring machines produce connections according to which they function, and function by improvising and forming the connections."[152] Geophilosophy, however, only ambivalently affirms the "connectivism" and "productivism" of desiring-machines.[153] It asks, instead, more vital questions of locality: *where? which desiring-machine? in what direction do these particular flows of desire run?* In the epoch of anthropogenic global warming, we cannot affirm the dissolution of alterity or decompose the friction of non-identity into the schizophrenic's cosmic delirium (a delirium that inversely replicates the "absorptive-sublative" nature of the Hegelian Absolute Subject, except rather than "auto-determining rationality" being the operative agent it is "experimental amorphous production"):

> There is no such thing as either man or nature now, only a process that produces the one within the other and couples the machines together. Producing-machines, desiring-machines everywhere, schizophrenic machines, all of species life: the self and the non-self, outside and inside, no longer have any meaning whatsoever.[154]

This is not to say that the "self" and "non-self" are absolutely distinct substances immune to a "schizophrenic" process of interaction: *homo natura*. Rather, it is to affirm the *non-synchronicity between strata*—that, however contingently it may happen, each stratum (anthropological, technological, geological) accumulates history according to its own particular logic, its own plane of immanence, its own technique of (re)production. It is only on the basis of this fundamental *non-synchronicity*, *diagonality* or *asymmetry* that the "parasite" emerges or makes sense, where the technosphere eats minerals and the geosphere eats media. Each stratum has a different dietary regime.

The problem with Deleuze's neo-Spinozist ontology of desire and affects—where "the plane of immanence, the plane of Nature that distributes affects, does not make any distinction at all between things that might be called natural and things that might be called artificial"—is that the *non-philosophical concept of nature is effectively rendered useless*.[155] Ecology just becomes an alibi for the

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[152] Deleuze and Guattari, *Anti-Oedipus*, 181.

[153] Entanglement does not imply conflation. Connection does not imply the abolition of difference. Just because things—strata—interact does not mean they lose themselves in each other—becoming co-dependent as in a fraught marriage continuing past its expiration date. We must remember Rilke's definition of love here because it is one that defies the conventional romantic image of complete amorous fusion of the two into the one: ideal love is, rather, to protect, greet and amplify each other's solitude. This seems to be one reading of Deleuze's "disjunctive synthesis": the event—the "encounter," the process of "becoming" or the collision of "coupling"—transforms both parties (modes) involved without conflating them into the vacuum of ipseity or sameness.

[154] ibid., 2.

[155] Deleuze, *Spinoza: Practical Philosophy*, 124.

ontology of digital networks, where "everything is interconnected"—where it is impossible to think the "non-relation" or the "non-identity" between different sets of relations (e.g. anthropological, technological, geological). This deletion of non-identity leads to what Pasquinelli calls digitalism:

> Ontologically, the techno-paradigm of digitalism believes that the semiotic and biologic domains are positioned in parallel or *specular* to each other. As a consequence, the digital can easily render the offline world as a sort of Google-like utopia of universal digitalization. A material event can be translated and mapped onto the immaterial plane, and *conversely*, the immaterial can easily be embodied in materiality.[156]

The negativity of friction between strata (as well as the autonomy of the earth itself) attempts to be exfoliated by processes of technological immersionism (e.g. the cyborg, geo-engineering, planetary computation). The "Earth is opaque"—a "*traject*, a long-term trajectory originating from out of the depths of time and destined for extinction."[157] Although nature is revealed through thought or computation to human beings, nature is not exhausted or "negated"—to use Hegelian terminology—by consciousness. Nor is it already a quasi-cyborgic hypersubject as in neo-Spinozist renderings. If nature is merely an abstract process of infinite becoming, then, as Neyrat declares, the "promise of a Spinozist ecology turns into a nightmare."[158]

[156] Pasquinelli, *Animal Spirits*, 72.
[157] Neyrat, *The Unconstructable Earth*, 134.
[158] ibid., 140.

ABSTRACT MACHINES: GEOLOGY AND REPRODUCTION

> *Can one imagine an archive without foundation, without substrate, without substance, without subjectile? And if it were impossible, what of the history of substrates?....there is no limit to this problematic of the impression, that is, of the inscription, which leaves a mark right on the substrate.*
>
> —Jacques Derrida, *Archive Fever*

> *The Stack terraforms the host planet by drinking and vomiting its elemental juices and spitting up mobile phones. After its short career as a little computing brick within a larger megamachine, its fate at the dying end of the electronics component life cycle is just as sad.*
>
> —Benjamin H. Bratton, *The Stack*

> *In a post to Google's official blog, Urs Hölzle proposed a figure of 0.0003 kWh of energy per search, equivalent to about 0.2 grams of CO2....Multiplied by the billions of search queries entered daily, that is already a vast amount of power.*
>
> —Sean Cubitt, *Finite Media*

2.0 INTRODUCTION: NOTES ON THE PROLETARIANIZATION OF GEOLOGY

Semiocapitalism is a geological operator: it puts nature to work. To put communication to work—at this juncture of historical development and techno-capitalism—is automatically to put nature to work. The example that Cubitt gives of the CO2 emissions that are produced from a single Google search is just a minor illustration of this point. While we have established semiocapitalism's dependence on the geological (i.e. an "ecological deficit" in Autonomist thought), we have as of yet neither sufficiently translated this dependency (or parasitism) into concrete Marxian terms (i.e. a theory of value) that specify the governing logic behind capitalism's ecological regimes nor developed a robust enough theory of a "transcendental geology" (i.e. the earth as a condition of possibility for thought). It is for this reason, in our progressive critique of central tenets of Autonomist thought and semiocapitalism, we turn to both Silvia Federici and Jason W. Moore in order to reconsider the question of "reproduction" on a planetary scale and short-circuit both "the continuing love affair with the famous 'Fragment on Machines' in the *Grundrisse*" and the value theory proposed by orthodox Marxists and cognitivists (Negri et al.).[159] In other words, it is a

[159] Federici, "The Reproduction of Labor Power in the Global Economy," 93.

question of how the general intellect (i.e. the "social brain," "big data") *reproduces* itself through the appropriation of geological flows (i.e. the unpaid work of nature) as a socio-ecological regime of capital accumulation.

But this also leads to more speculative investigations that we have only begun to contour: we still must think the co-origination of the cognitariat (i.e. consciousness, thought, subjectivity), the machine or technical object (i.e. general intellect, communication networks, computation, data centers) and the earth (i.e. telluric flows of minerals, the atmospheric commons) as that which amounts to what Michael Lewis calls in his exegesis of Bernard Stiegler "a mutual contamination of the empirical and the transcendental."[160] The subject's animating circuit of self-relation (whether cognitive, temporal or affective), which conditions the possibility of its experience-existence, cannot take place unless it encloses—folds—within this circle of auto-relationality an "exterior field of processes," "historicity," "empirical objects."[161] This is just to say, as we continue to emphasize, contra Virno, Negri and Marazzi, semiotic fluxes, social cooperation and knowledge do not circulate on their own in a process of techno-telepathic autopoiesis (i.e. intersubjectively). Subjectivity is unable to be formed without a process of linguistic-reification that brings into the shared space of the public sphere empirical "objects of thought" (Virno). Subjectivity is unable to be formed without the "empirico-historical technical object" that functions as external memory and horizon of anthropogenesis (Stiegler). Subjectivity is unable to be formed without the "pneumatic envelopment of an atmosphere" that establishes a "pact between the giver and taker of breath" (Sloterdijk).[162] In all of these instances *a process of exteriorization proceeds, exceeds and conditions the process of interiorization*. Starting from this thesis of contamination allows us to salvage parts that contribute more fully to a "transcendental geology" (of the general intellect)—and, consequently, a "transcendental geology of value" (à la Moore).

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[160] Lewis, "Of a Mythical Philosophical Anthropology: The Transcendental and the Empirical in *Technics and Time*," 53.

[161] Of course, the "subject" I have in mind here is not Kantian *per se* but "the general intellect" and the social subjectivity of the general intellect— "the cognitariat." While Deleuze already critiques, shatters and rebuilds—that is, ontologizes—the Kantian transcendental (noumenal subjectivity applying concepts to the sensory manifold) in his development of the transcendental field of genetic conditions that are not products of the mind (the virtual generating actual entities), it is still worth preserving some aspect of "subjectivity" or "cognition" for our purposes insofar as we read "the social mind" and "computation" from the vantage point of a "transcendental geology" mediated by global labour. See Levi Bryant's succinct and lucid blog post on the difference between Kant's and Deleuze's use of the "transcendental": https://larvalsubjects.wordpress.com/2008/12/07/the-transcendent-and-the-transcendental/

[162] Sloterdijk, *Bubbles*, 40.

We have to continue to think against what Bifo calls "the emancipation of the sign," "the autonomization of value production" and the "pathologies of hyper-expression" when thinking about semiocapitalism's process of value extraction-creation:

> Financial capitalism is based on the autonomization of the dynamics of money, but more deeply, on the autonomization of value production from the physical interaction of things.... The passage from the industrial abstraction of work to the digital abstraction of the world implies an immaterialization of the labor process.[163]

Instead, we have to map the complex ways in which semiotic flows (knowledge, language, communication, data) are "incarnated," "stored" and "mediated." We have to splice Autonomist thought with other thematics like "archive fever," the "history of substrates" and "the problematic of impression" (à la Derridean and Stieglerian grammatology) as they enable us to make sense of how language, communication and knowledge (and their means of transmission, circulation, distribution) *reproduce* themselves not only in material apparatuses but also in a warming world (e.g. the printing press and data center—both of which are entangled in a history petro-capitalism and atmospheric pollution). Oil, quite literally, becomes the lubricant of Enlightenment. Financial capitalism, likewise, does not exist without the computational powers enabled by data centers. The Anthropocene, or Capitalocene, forces us to reconsider the process of valorization not only outside of the industrial model of "abstract labour-time" (Marx) as Autonomists argue but also outside of the "social factory" or metropolitan model of "biopolitical production," "real subsumption" and "knowledge value" (Negri et al.).

Autonomist thought—especially those parts of it that align with Negri—suffers from a political ontology that has an inexorable tendency to fetishize *productivity* and *socio-anthropological relations of labour* ("biopower," "social production," "the general intellect" and "commodified labour-power") over *re-production* and *socio-ecological relations of the earth* ("unpaid work of nature," "atmospheric relations," "geo-material conditions," "deep-time" and the "re-production of non-human life"). By subsuming "the great whale of life" under the enchanted prism of production or "biopower," important distinctions between *production* and *re-production*, *biopower* and *necropower,* the *social* and the *geological*, and how they contribute to value-creation and social life as such are deleteriously blurred:

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[163] Bifo, "The Emancipation of the Sign," https://www.e-flux.com/journal/39/60284/emancipation-of-the-sign-poetry-and-finance-during-the-twentieth-century/

> Biopower is another name for the real subsumption of society under capital, and both are synonymous with the globalized productive order. Production fills the surfaces of Empire.... Intelligence and affect (or really the brain coextensive with the body), just when they become the primary productive powers, make production and life coincide across the terrain on which they operate, because life is nothing other than the production and reproduction of the set of bodies and brains.... Life is no longer produced in the cycles of reproduction that are subordinated to the working day; on the contrary, life is what infuses and dominates all production. In fact, the value of labor and production is determined deep in the viscera of life. Industry produces no surplus except what is generated by social activity.[164]

We have to follow Federici in her insistence "to maintain, against postmodern trends, the separation between production and reproduction."[165] Affective labour, likewise, is highly limited as both a concept and phenomenon in its ability to explain the expansive relations of reproduction that are carried out in order to reproduce human and social life.[166] As I will demonstrate throughout this chapter, the "forces of production" (i.e. globalized industrial cycles, the powers of the general intellect) and the "forces of re-production" (i.e. biogeophysical processes) exist in a frictional, contradictory and asymmetrical relation with one another—and that this becomes problematic for regimes of accumulation.

As James Bridle notes in regard to the information and communication technologies (ICT) of the supposedly insulated postmodern world of hyperreal simulacra, the "systems we have built to collapse time and space are being attacked by time and space."[167] Even something as ethereal as wireless communication becomes an object of malfunction in the warming world: for instance, in the "electromagnetic spectrum, the strength and efficacy of wireless transmission will be reduced as temperatures rise....Wi-Fi, in short, will get worse, not better."[168] Cognitive infrastructures of computation are in an ongoing conflict with the climate. The planetary system (even if it will require more "prosthetic support" in terms of geoengineering) is still responsible for doing the work of re-production that replenishes the conditions of possibility that make productive life in the metropolis and digital culture run smoothly in the first place—run as such. As I will flesh out in more robust examples, computation (i.e. a key aspect of the "general intellect") cannot be solely regarded as a techno-scientific form of *control* mastering its material conditions (à la the Hegelian

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[164] Hardt and Negri, *Empire*, 364-365.
[165] Federici, "The Reproduction of Labor Power in the Global Economy," 100.
[166] ibid., 100.
[167] Bridle, *New Dark Age*, 63.
[168] ibid., 62.

Absolute Subject) but also increasingly open to fluctuating forms of *material receptivity* and *geological encounters* that structure, inflect and change the very nature of the "cognitive" in the warming world. It is not just that "[i]deas of nature are fundamental to earth-moving" (cartography, mathematics, agronomy, meteorology, economic botany, climate computation) but that "Society" or the "Subject" (in the Hegelian-Marxist sense) itself is not an autonomous force producing changes in the "web of life" ("for-itself") but also a "product" of these changes.[169]

The majority of Autonomist thought that focuses on the mythic productivism of labour power has to be challenged, especially if this productivity is re-formatted as *immaterial* (an expression of the general intellect), *post-industrial* (a new regime of value-production that integrates the entire domain of social activity) or *immeasurable* (an ontological feature of the multitude), because these inflections all imply "machinic subjectivity," "cyborgism" and increasing use of ICT for "productive knowledge." Likewise, haunting the productive dynamism of labour power and the cognitariat (i.e. exploitation) is always a larger spectral network of material-energetic "appropriation." Insofar as capitalism seeks to *appropriate* sources and flows of unpaid work/energy without *exploiting* (i.e. commodifying) them, "*without immediately capitalizing these sources*" to keep the cost of production low and rate of profit high, the hegemony of immaterial labour will never occur—that is, the "commodification" or "informationalization" of everything is an inaccurate assessment of capital's logic of accumulation.[170] The metropolis functions precisely because not everything is drawn into the immanence of the social factory or biopower (i.e. real subsumption). As Jason W. Moore illuminatingly points out, if we take as our starting point the "nexus of paid/unpaid work," "capitalism and value relations cannot be reduced to the relation between the owners of capital and the possessors of labor-power. *The historical condition of socially necessary labor-time is socially necessary unpaid work*"—that is, "unpaid work" that does not spring from commodified labour or the privileged "creative human capacities of the social commons."[171] As Wark explains, capital "appropriates nature to itself, including the unpaid work of women and slaves, which from the point of view of capital are not human capacities, but just other parts of nature."[172]

We need to maneuver past a deep-rooted "ethereal tendency" in Autonomist thought—and Western metaphysics—that represses the geological conditions of possibility that

[169] Moore, *Capitalism in the Web of Life*, 78.
[170] ibid., 95.
[171] ibid., 69.
[172] Wark, "The Capitalocene: On Jason Moore," http://www.publicseminar.org/2015/10/the-capitalocene/

enable cognition, productivity and value, especially in the epoch of the Anthropocene. This tendency manufactures a series of limited abstractions: we get *abstract machines* (technological innovation as the pure expression of the general intellect), *abstract temporality* (the conflation of labour-time with life-time for value creation) and *abstract productivity* (a latent form of Spinozistic Prometheanism that infects everything with the "eros of production," or, in Negri's terms, "biopower," "biopolitical production" and "potenza").[173] Thus, to reiterate, this chapter argues that, at the current level of capitalism and historical techno-development, *to put communication to work is automatically to put nature to work*. If we imbue geological actors with a quasi-proletarian dimension, we not only extend the notion of the multitude to include forms of non-human work and struggle but also distil three disenchantments regarding our semio-technological future: (1) value-producing labour in semiocapitalism is *a priori* entangled with "unpaid" ecological processes of re-productive, non-commodified "work" (a re-productivism that becomes all the more complicated in the Anthropocene); (2) the ontology of the sign has to shift from solely one of *expression* to one of *impression*, where the emphasis falls on how *energetic regimes* underlie, mediate and interlace *epistemic regimes*, which means that value-creating "semiotic fluxes of information" require as their condition of possibility to be *spatialized* and *incarnate* geo-material objects, processes and substrata—an imbrication that is exemplified in the phenomenon of data centers; (3) lastly, productivism does not exist without anti-production, constructivism does not exist without destructivism (e.g. e-waste, exhaustion, ruination)—that is, it is (currently) impossible to imagine a cyber-progressive, hi-tech and automated modernity without the co-existence of immense attritional stress on the "material conditions" (necessary for the transition to "automated luxury communism") and what Jussi Parikka calls "zombie media" or "future fossils."

[173] It would be unfair to only hold Autonomist Marxism culpable of this short-coming. Accelerationist Marxism is also culpable of this ethereal pitfall and critiqued by proxy—and, probably, is liable to an even more vicious critique than the one put forward here. Abstraction, moreover, does not suggest notions of "unreality" or "idealism"; rather, it suggests a limitation in the scope of abstraction that excludes—for instance, in formulations and material processes of "abstract social labour" or "socially necessary labour-time"—regimes of appropriation that proceed outside of forms of exploitation (of commodified labour-power), forms which depend on the unpaid work/energy of nature (e.g. the atmosphere as a sink for pollution), women (e.g. the non-remunerated work of re-production) and neo-colonization (e.g. the unregulated and toxic labour of the global South—a labour in closer proximity to the "necro" than it is the "bio," especially due to the fact that to be "social" in Autonomist terms presupposes that one to have access to a computer, educational systems, Wi-Fi and the other paraphernalia of Enlightenment).

2.1 AGAINST PRODUCTIVISM: AN ECOLOGICAL CRITIQUE OF VALUE

Michael Hardt and Antonio Negri argue in *Empire* that Marx's theory of value remains caught within a Western metaphysical tradition that "has always abhorred the immeasurable."[174] Hardt and Negri see that Marx's "theory of value is really a theory of the measure of value" that reduces value to a quantification of homogeneous units of labour-time, a quantification of exploitation that is paradigmatically localized within the determinate spatio-temporal context of the factory and working day:

> Marx poses the relation between labor and value in terms of corresponding quantities: a certain quantity of time of abstract labor equals a quantity of value. According to this law of value, which defines capitalist production, value is expressed in measurable, homogenous units of labor time. Marx eventually links this notion to his analysis of the working day and surplus value.[175]

As Melinda Cooper elaborates, the "law of value...defines exploitation as a measurable quantity, locating it in the extortion of a surplus of labor above and beyond the expenditure of force necessary for the reproduction of the worker's body."[176] Exploitation, although structural, is not merely a *socio-economic* but *antagonistic* phenomenon—a phenomenon that Marx fleshes out in his distinction between *necessary* and *surplus labour*. Necessary labour time is located in the quanta of abstract labour needed for the worker to reproduce themselves (i.e. meet their needs through a wage). Surplus labour time, on the other hand, is located in the quanta of time the worker works above and beyond that (i.e. where the capitalist exploits labour power for free to generate profit). Thus, the "working class struggles against exploitation, that is, against the imposition of ever more surplus labour."[177]

The traditional Marxist interpretation of value—or "theory of value"—regards value-creation as that which comes into being *during the act of commodity production*: as Moore reiterates, value "is abstract social labour...and it is determined by socially necessary labor-time: the average labor-time embodied in the average commodity."[178] Marx elaborates the notion of the value form in terms of measurement in order to establish an equivalence between three different socio-economic entities: abstract labor, the commodity form and exchange value. Value is *generated* in the

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[174] Hardt and Negri, *Empire*, 355.
[175] Hardt and Negri, *Multitude*, 145.
[176] Cooper, "Marx Beyond Marx, Marx Before Marx: Negri's Lucretian Critique of the Hegelian Marx," 128.
[177] Rosenkrantz, "*Empire*, Imperialism, and Value: Negri on Capitalist Sovereignty," 159.
[178] Moore, *Capitalism in the Web of Life*, 52.

process of production that uses labour power to make commodities. It is *realized*, however, *during market exchange*. This is just to say that value is not generated by the market; however, it cannot be realized without market exchange (without commodities being bought and sold). The "abstract" aspect is also important here. Ricardo developed a theory of value that was predicated on "concrete labour" (i.e. the physical quanta of labour) measured in the simple expenditure of labour time, where the commodity is merely the expression of the labour time expended to produce it. Marx's theory of value, on the contrary, was predicated on "abstract labour" (i.e. *socially necessary* labour time, a necessity that can only be revealed, tested or determined by the market and under certain conditions of production at a particular juncture of techno-historical development). The fact that labour has to be sold on the market as a commodity in the first place is also crucial.

The fact that human labour power becomes a commodity—something to be sold on the market—is the result of "primitive accumulation." Primitive accumulation is the production of the working class through the privatization of the means of production so that the working class cannot reproduce its existence except through the market—or, more precisely, through a wage. This is one of the defining characteristics of the capitalist mode of production. Only when the worker is stripped of the means to reproduce their existence and left with no other choice but to sell their labour-power does the employment relation take hold as an omnipresent form of capitalist domination. Like all other commodities, then, labour embodies two properties: it is simultaneously "concrete labour" and "abstract labour." Useful or concrete labour is an activity that produces tangible goods, services or use-values. Abstract labour, on the other hand, is a socio-economic or strictly "value-forming" activity that only occurs under the historical conditions of capitalism, where if commodified labor-power is strategically deployed by the capitalist can produce excess value (i.e. profit). This is one of the advantages of Marx's theory of value. *It exposes the structural features of exploitation at the heart of the capitalist mode of production*—unlike Ricardo's or Smith's theories of value. It is precisely because labour is a commodity that is can produce value and be exploited as such. The worker produces, in any given period of time, more value than they are paid for in the wage equivalent. Surplus value is generated in excess of what the capitalist pays for labour-power.

Marx's quantitative theory of value—because it defines exploitation according to a "factoryist model," as that which can be measured in temporal units during the working day—no longer furnishes us with an adequate account of how capitalism exploits labour in post-Fordist

regime of accumulation according to the Autonomist interpretation. Negri explicitly claims that Marx's value theory is tied to the Industrial Revolution—the "historical limits" of Marx's value theory are "the limits of its validity."[179] According to the Autonomist interpretation, due to the fact that in semiocapitalism "labor is immediately a social force animated by the powers of knowledge, affect, science and language," it is impossible to quantify exploitation in terms of the spatialized temporal metrics of the factory.[180] This does not mean that exploitation is obsolete; rather, the *whole of society* is subsumed under the aegis of production-exploitation: the "time of production is the time of life" and even "if in postmodern capitalism there is no longer a fixed scale that measures value, value nonetheless is still powerful and ubiquitous," a fact that is "demonstrated...by the persistence of exploitation, and...by the fact that productive innovation and the creation of wealth continue tirelessly—in fact, they mobilize labor in every interstice of the world."[181] The problem with this interpretation, however, is that "concrete labour" and "abstract labour" are wildly conflated, making all use-values (social wealth) appear *a priori* as exchange-values (objects able to be commodified and exploited).[182]

But, more than this, to follow the feminist Marxist line of critique, the social powers of "knowledge, affect, science and language" cannot in and of themselves reproduce the lauded *substance of value*—living labour or the workforce. Unlike the poets say, language is not bread. Federici also critiques Marx's labour theory of value but comes to much different conclusion than Hardt and Negri: while Marx

> meticulously explored the dynamics of yarn production and capitalist valorization, he was succinct when tackling the question of reproductive work, reducing it to the workers' consumption of the commodities their wages can buy and the work the production of these commodities requires. In other words, as in the neoliberal scheme, in Marx's account too, all that is needed to (re)produce labor power is commodity production and the market. No other work intervenes to prepare the goods the workers consume or to restore physically and emotionally their capacity to work. No difference is made between commodity production and the production of the workforce. One assembly line produces both.

[179] Negri, "Twenty Theses on Marx," 157.
[180] Hardt and Negri, *Empire*, 357-358
[181] Negri, *Time for Revolution*, 44; Hardt and Negri, *Empire*, 356.
[182] Rosenkrantz, "*Empire*, Imperialism, and Value: Negri on Capitalist Sovereignty," 163. Rosenkrantz makes a case against "real subsumption" in a clear and simple fashion: real subsumption does not collapse the labour theory of value and immaterial labour is not hegemonic because Negri only shows that "intellectual, aesthetic, and emotional activities *can* be turned into work. It does not follow that all such activities *are* work. To take a simple and obvious example, consider the case of a computer programmer who spends part of her day writing code for commercial applications and part writing code for a computer game that will be distributed freely over the internet. It is simply false to characterize both such activities as [forms of abstract] labor" (163).

> Accordingly, the value of labor power is measured by the value of the commodities (food, clothing, housing) that have to be supplied to the worker, to "the man, so that he can renew his life-process," that is, they are measured on the labor time socially necessary for their production.[183]

What orthodox Marxist and cognitivists (Negri et al.) fail to properly thematize is that what the labour theory of value depends upon is a radical suppression, repression and devalorization—in practico-ideological, theoretical and economic terms—of the "reproductive activities" that function to "cut the cost of labor power."[184] The assembly line of the factory and the assemblage line of the network both operate as Marxist "quasi-causes"—everything clings to their power, they appear as if they exclusively produce the objective world, while nevertheless eclipsing their conditions of possibility or vital dependencies. As Moore puts it, value "does not work unless most work is not valued."[185]

The traditional Autonomist interpretation of value, instead, considers value as an *ontological phenomenon*—that is, as an immeasurable excess that stems from the powers of the multitude. Value is not merely a social-economic phenomenon generated in the labour process. It is labour itself as a *transcendental element*. As Negri argues, the "form of value is instead the transcendental material of a determinate society—it has, then, a higher ontological intensity than the simple mode of production."[186]

This "ontological turn" enables Negri and other Autonomist thinkers to re-politicize value and free it from the straitjacket of economic determinism. Value is not isomorphic with the exploitation of commodified labour-power. The ontological powers of the multitude flicker between two determinations or tendencies—either the ontological productive excess is rendered as "variable capital" (i.e. captured by the capitalist class as an object of exploitation used to generate surplus value) or "constituent power" (i.e. expressed as an expansion of power lived through revolutionary practice). This antagonism at the heart of the form of value is due to the fact that in Autonomist thought *resistance is ontologically primary* and *creativity is exclusive to living labour*; hence, capitalism functions as a macro-parasite or apparatus of capture that "directs the energy of living labor into the production and reproduction of capitalist forms."[187] This means that labour and its

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[183] Federici, "The Reproduction of Labor Power in the Global Economy," 93.
[184] ibid., 92.
[185] Moore, *Capitalism in the Web of Life*, 54.
[186] Negri, "Twenty Theses on Marx," 150.
[187] Clough and Blumberg, "Toward Anarchist and Autonomist Marxist Geographies," 344.

power of valorization are *always already outside* of capitalist domination and control. Labour is not split between "concrete" and "abstract" properties (as in Marx's account in *Capital*) but is instead generalized into a Spinozistic category—that is, as the "*power to act*" (a power that can be siphoned by capital or directed toward revolutionary forms).[188] Value is an expression of labour, and labour is the pure ontological generativity capable of producing social life: "[i]f the power to act constructs value from below, if it transforms value according to the rhythm of what is common, and if it appropriates constitutively the material conditions of its own realization, then it is obvious that in it resides an expansive force beyond measure."[189]

The emphasis between (anthropocentric) *productivism* and *value-creation*, however, is still carried over from Marx's formulations (and reified to an even greater intensity in the affirmation of the multitude). The crisis of the law of value that Negri outlines undermines the industrial model of exploitation that reduces value to an objective measure (of labour-time) but fails to call into question the role of labour in value-creation itself—that *living labour as the substance of value* itself is a limited matrix, not just homogenous abstract temporality. As Sara Nelson neatly summarizes, for Autonomist thinkers

> human labor power is characterized by an ontological excess, a surplus productivity and creativity that cannot be exhausted through its capture as surplus value. Living labor is this embodied potentiality, and the struggle against exploitation takes the form of a struggle over the conditions of labor's actualization. But this ontological productivity does not extend to the non-human world. Instead, autonomists have consistently contrasted the excessive productivity of the 'social common'—the field of communicative and affective relations from which capital extracts value—with a notion of the ecological common characterized by material limit. Autonomist thinkers therefore repeat and intensify what some eco-Marxist critics have described as Marx's lack of attention to the role of non-human natures in the production process, and fail to account for the role of non-human natures in prompting capitalist 'innovations.'[190]

One can even argue that the neo-Spinozist ontology of the multitude *internalizes the metaphysical principle of bourgeois political economy*: the human subject must be transformed into a transhistorical mode of infinite productivity.

Jean Baudrillard in his underappreciated *The Mirror of Production* (1975) is absolutely crucial on this point—this surreptitious "internalization" of political economy: "the system of political

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[188] Hardt and Negri, *Empire*, 358.
[189] ibid., 358-359.
[190] Nelson, "Beyond The Limits to Growth: Ecology and the Neoliberal Counterrevolution," 465.

economy does not produce only the individual as labour power that is sold and exchanged: it produces the very conception of labor power as the fundamental human potential."[191] While Marx's development of abstract social labour (labour amenable to exchange value) functions as a critical apparatus that shows how labour is exploited and objectified in the production process, Marxist theory has the tendency to leave unchallenged the Promethean interpretation of human labour (whether in its energetic, physiological or intellectual capacity), an interpretation that regards productivity as the essence of each being. This is especially the case with Hardt and Negri and Autonomist theorists who borrow from Spinoza's ontology to situate their politics: as Baudrillard polemically evinces, "Marxism assists the cunning of capital. It convinces men that they are alienated by the sale of their labor power, thus censoring the much more radical hypothesis that they might be alienated as labor power, as the 'inalienable' power of creating value by their labor."[192] It is for this reason that feminist Marxists and eco-Marxists turn away from the Prometheanism of hypostasized Marxist anthropology (the primacy of labour power in the formulations of value-creation and the male proletariat in revolutionary praxis) and toward the constitutive relations of reproduction underlying the workforce.

Value, however, is the incorporation of more than just labour—whether this manifests in the exploitation of "abstract social labour" (i.e. the industrial working class à la Marx) or the "biopolitical exuberance of immaterial labour" (i.e. the cognitariat à la Negri et al.). For Moore, the "law of value" (i.e. the "theory of value" instantiated in its concrete historical unfolding) is a "law of Cheap Nature."[193] He attempts to transcend the notion of work made isomorphic with wage-labour and represented in the "ideo-typical figure of the proletariat":

> Labor productivity is understood in terms of the rate of exploitation and the production of surplus value. The usual Marxist model turns on the relation of machinery and labor-power: more powerful machines allow the average worker to produce more average commodities.... Alternatively, exploitation may advance when the worker produces a static mass of value, so long as wages decrease. Thus, accumulation may advance on the basis of

[191] Baudrillard, *The Mirror of Production*, 31.

[192] ibid., 31. Baudrillard will also make the provoking claim that until "as late as the 17th Century, Nature signified only the totality of laws founding the world's intelligibility," as a realm of order inscribed with epistemological, rational and material consistency; it is only in the 18th Century, with the "rationality of the system of political economy" and the Industrial Revolution that Nature is "discovered" as a "potentiality of *powers* (no longer a totality of *laws*)" (53). It is precisely under the operation of "industrial structuration" that, simultaneously, Nature is "'liberated' as a productive power" and the "individual finds himself 'liberated' as labor power" (54). For Baudrillard, "liberation" tactics under capitalism are just another turn in the spiral of power. "Transformation" gives way to more subtle forms of oppressive "transcription"—or, capture in the "code."

[193] Moore, *Capitalism in the Web of Life*, 14.

> rising wages and rapidly increasing productivity, as during Fordism, or on the basis of falling (or static) wages and very slow productivity growth, as during the neoliberal era.[194]

Like Federici, for Moore capitalism is not reducible to the commodity realm, the world market, the technological innovation of the general intellect or the productive powers of wage-labour. Cheap Nature is a project of capitalist power, science and technics—that is, of "appropriating uncapitalized nature as the pedestal of labor productivity," a regime of appropriation that in turn enables or fuels this very regime of capitalist power, science and machinery.[195]

Work in Moore's conception also changes so that productivity is not reducible to human labour-power but closer to a Deleuzean "flow": "work" becomes a universal operation of energy production and expenditure that cannot be limited to an *anthropogenic social form* (a subject operating "for-itself") being applied to *natural material* (an object operating "in-itself"). Labour is not simply the Marxist-Hegelian "form-giving fire." Flows of matter generate a myriad of energetic "surpluses" that capitalism parasitically cuts into, exhausts and appropriates in order to sustain "fixed capital" and "variable capital." The renown eco-Marxists John Bellamy Foster and Paul Burkett complain that in Moore's view now labour's "contribution to the production of value is viewed as epiphenomenal, largely determined by the wider appropriation of 'work' or energy, in the sense of physics, carried out by the web of life as a whole" and "the labor theory of value is relegated to a ghostlike existence, an ethereal substance."[196] But this is an unfair assessment. Moore himself is clear that "value isn't everything": the "law of value—not a theory of value, but its actual historical operation—is anthropocentric in a very specific sense. Only human labor-power directly produces value. A tree, or a horse, or a geological vent cannot be paid" and yet "commodified labor-power cannot produce anything without the unpaid work of the horse or the tree. Socially *unpaid* work is the pedestal of socially necessary labor-time."[197]

Value for Moore, then, operates through a *negative dialectic* of "exploitation and appropriation"—where "relations of exploitation produce abstract social labor" and "relations of appropriation" produce an "abstract social nature" that enables "the expanded accumulation of abstract social labor."[198] *Appropriation is non-identical to exploitation.* Exploitation pivots on

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[194] ibid., 16, 15.
[195] ibid., 17.
[196] Foster and Burkett, "Value Isn't Everything," https://monthlyreview.org/2018/11/01/value-isnt-everything/
[197] Moore, *Capitalism in the Web of Life*, 299.
[198] ibid., 16.

commodified wage-labour ("value-form"). Appropriation pivots on an even wider sphere of unpaid labour and cheap nature that functions as a transcendental element for exploitation ("value-relations"). Appropriation co-constitutes exploitation as its condition of possibility: "[e]very act of exploitation (of commodified labor-power) therefore depends on an even greater act of appropriation (of unpaid work/energy)."[199] Appropriation, furthermore, "names those extra-economic processes that identify, secure and channel unpaid work outside of the commodity system into the circuit of capital."[200] Appropriation, then, as a major capitalist technique forces us to reconsider our thinking of primitive accumulation. Primitive accumulation is not merely a process of proletarianization (i.e. making the worker become a commodity); it is also, of equal importance, about restructuring "*the relations of reproduction—human and extra-human alike—so as to allow the renewed and expanded flow of Cheap labor, food, energy, and raw materials into the commodity system*."[201] The question of value, labour and exploitation all orbit around the question of the expansive conditions of reproduction, conditions that while outside of the commodity system are necessary for its generalization, actualization and maintenance. Reproduction functions in Moore as the "transcendental geology of value": "unpaid work not only *makes possible* the production of potential—or the reproduction of actual—labor-power as 'cheap' labor; it also involves the work of extra-human natures. In this domain of reproduction, the appropriation of unpaid work is central."[202]

Foster and Burkett will claim—as I have done with Negri—that there is a conflation of *concrete-labour* (social wealth of the commons) and *abstract-labour* (the social construct of homogenous labour-time) in Moore's theory of valorization. For Marx, they reiterate, abstract-labour is the *basis of value*, not concrete-labour. This post-human conflation, then, according to Foster and Burkett, has

> occurred through the promotion of two closely connected arguments: (1) deconstruction of social labor as the basis of value, to be replaced by what is seen as a more "inclusive" physiological or energetic theory of value; and (2) subsumption of the entire web of life, in all of its aspects, under the law of value of the world commodity economy. The object of such analyses is the "destabilization of value as an 'economic' category," on which the

[199] ibid., 54.
[200] ibid., 17.
[201] ibid., 98.
[202] ibid., 17. My emphasis.

> classical Marxian critique of capitalism, with its focus on the twofold alienation of labor and nature, ultimately depends.[203]

This subsumption is not totalizing, though. The "economic aspect of value" (exploitation) is not abolished. It is merely a question of its conditions of possibility (appropriation). It is generated through a differential of strata and asymmetrical dependencies that are non-identical to wage-labour. As Federici reminds us, Burkett has completely de-emphasized the role of reproduction in his accounts of Marx's labour theory of value.[204]

The reason why "the unpaid work of nature," "value-relations," "the expansive sphere of reproduction" and "appropriation" function as a constellation of transcendental elements for the commodity realm and commodified labour-power is simple and elegant:

> The law of value, far from reducible to abstract social labor, finds its necessary conditions of self-expansion through the creation and subsequent appropriation of Cheap Natures....In sum, deliver labor, food, energy, and raw materials...faster than the accumulating mass of surplus capital derived from the exploitation of labor-power. Why? Because the rate of exploitation of labor-power (within the commodity system) tends to exhaust the life-making capacities that enter into the immediate production of value.[205]

Exploitation *a priori* implies the exhaustion of the earth's and labour-power's vital forces. This exhaustion, while necessary or inevitable, is also historically specific and relational (e.g. class struggle, depression, biophysical change, geographical inertia): exhaustion "occurs when particular natures—crystallized in specific reproduction complexes—can no longer deliver more and more work/energy."[206] In other words, exhaustion has the tendency to make reproduction complexes "expensive" to maintain. It "signals a rising value composition of capital."[207] The pressure put on capital's rate of profit forces capitalists to find or develop new inputs of cheap nature.

Moore names this perennial crisis of exhaustion the tendency of the ecological surplus to fall. Crisis unfolds between the domain of commodification and the domain of reproduction. Crisis-formation, then, takes on another dimension outside of the traditional Marxist forms that relegate crisis exclusively to the realm of commodification: there is either, *the problem of overproduction*— "too many factories produce too many cars, or refrigerators, or computers that cannot be purchased in

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[203] Foster and Burkett, "Value Isn't Everything," https://monthlyreview.org/2018/11/01/value-isnt-everything/
[204] Federici, "The Reproduction of Labor Power in the Global Economy," 95-96.
[205] Moore, *Capitalism in the Web of Life*, 67.
[206] ibid., 124.
[207] ibid., 68.

sufficient volumes to maintain the rate of profit"; or, *the problem of overaccumulation*—"the rate of profit in existing investment lines begin to fall, and new, more profitable investment opportunities have not emerged" to put capital to work effectively.[208] Expansions in labour productivity and technological infrastructure, however, necessarily require expanding zones of ecological surplus. Thus, as Wark explains, the "crisis of capital is related to energy returned on capital invested."[209] This manifests explicitly in the *problem of underproduction*.

Crisis is not just about problems selling commodities that issue from sites of manufacture or opening up profitable markets to increase returns on invested capital: it is also about getting "cheap inputs to the factory gates."[210] Underproduction is the "insufficient flow of labour, food, energy, and materials relative to the demands of value production."[211] Machinery (i.e. fixed capital), likewise, in "industrial production tends to 'run ahead' of the raw materials section" and therefore "the 'overproduction of machinery...finds its dialectical antagonism in the 'underproduction' of raw materials (circulating capital)."[212] In other words, shortages in cheap flows of raw material occur due to capital's consistent failure to invest in the domain of reproduction—precisely because the zone of reproduction is where capital externalizes its costs.

As capitalist domains of exploitation and technological infrastructures continue to expand due to the demand for "cheap information" streaming from the general intellect, automation and the data needing to be stored by users and financial markets around the globe, the "ecological surplus" will increasingly contract. The zone of commodification and zone of accelerating technological innovation and information "overload" that produces unfathomable tonnes of waste (in terms of "e-waste" and "carbon emissions") has the "problem of running out of space within its own circuits."[213] For instance, polluting the atmosphere to externalize costs forces capitalism to "internalize space" (i.e. put the atmosphere to work) but this, as Bridle has shown, eventually (in the long run) makes the network more expensive to run because in a warming world digital infrastructures are more difficult to maintain.[214] In other words, after centuries of industrial pollution, the "work/energy" of the climate becomes "exhausted." As Federici points out in her

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[208] ibid., 91.
[209] Wark, "The Capitalocene: On Jason Moore," http://www.publicseminar.org/2015/10/the-capitalocene/
[210] ibid., 92.
[211] ibid., 92.
[212] ibid., 94.
[213] Wark, "The Capitalocene: On Jason Moore," http://www.publicseminar.org/2015/10/the-capitalocene/
[214] Bridle, *New Dark Age*, 62.

critique of Marxian Prometheanism, "five centuries of capitalist development have depleted the resources of the planet rather than creating the 'material conditions' for the transition to 'communism' (as Marx anticipated)" through the very "expansion of the 'forces of production' in the form of large scale industrialization"—an expansion that was supposed to make scarcity "obsolete" but under capitalist production has instead produced "scarcity on a global scale."[215]

It is in this sense that we have to follow Moore and Federici in thinking against the "ethereal tendencies" in Autonomist thought—as well as Accelerationist thought—that remain "wedded to a technologistic concept of revolution, where freedom comes through the machine, where the increase in the productivity of labor is assumed to be the material foundation for communism."[216]

This also implies re-thinking the consequences of *information overload* that insidiously unfolds between what Bifo calls the "universe of transmitters" (the infosphere) and the "universe of receivers" (the social brain) or what Marazzi calls "*information glut*"—where, although the "technological revolution has certainly enlarged social access to information," the "limitless growth in the supply of information conflicts with *limited* human demand."[217] Information does not just consume attention. It does not just function at the psycho-neurological level of negatively shaping the brain's plasticity (e.g. attention deficit disorder, info-stress, anxiety) or the level of monetary valuation (i.e. an attention economy). As Cubitt notes, "[c]heap energy has been part of the history of cloud computing."[218] The crisis of communication and computation is a crisis of biogeophysical processes of reproduction because information consumes gigantic amounts of electricity, oil and water: it is estimated that "data centers in the United States consumed 70 billion kWh of electricity in 2014, which is equivalent to 1.8% of the country's total energy consumption for that year" and in that same year "data centers were estimated to have used 626 billion liters of water, which equates to 1 liter of water consumed for every .11 kWh used."[219] This accounts for approximately "2% of total global greenhouse emissions, or about 648 billion kilograms of CO2 in 2014" (although other sources indicate it could be around 4% as of 2019).[220]

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[215] Federici, "The Reproduction of Labor Power in the Global Economy," 92.
[216] ibid., 95.
[217] Bifo, *And: Phenomenology of the End*, 45; Marazzi, *Capital and Language*, 65, 64.
[218] Cubitt, *Finite Media*, 19.
[219] Joe Jacob, "Data Centers: A Latent Environmental Threat," https://sites.duke.edu/lit290s-1_02_s2017/2017/03/08/data-centers-a-latent-environmental-threat/
[220] ibid.

As Cubitt points out, there is not even enough storage to hold the sublime "300 billion gigabytes" of information generated by the digital universe—and, according to a study in 2008, it was found that in 2011 "almost half of the digital universe" would not have a "permanent home."[221] As the "semiotization" and "informationalization" of everything (i.e. smart phones, smart cars, smart homes, smart cities) continues to expand by way of integrating more aspects of daily life into the digital network, producing more data and requiring more and more cloud services, information will continue to grow at exponential rates. Computation, in turn, will become a greater and greater stressor of the climate. As Bridle forecasts, this computational

> consumption is projected to escalate massively, as a result of both the growth of digital infrastructure and the positive feedback loop from rising global temperatures. In response to vast increases in data storage and computational capacity in the last decade, the amount of energy used by data centers has doubled every four years, and is expected to triple in the next ten years. A study in Japan suggested that by 2030, the power requirements for digital services alone would outstrip the entire nation's current generation capacity.[222]

For example, the New York Stock Exchange produces "up to 2,000 gigabytes of data per day that must be stored for years" and the "creation of single 3-D animated movie" generates "roughly a million gigabytes."[223] A large part of the energy that is consumed by data centers, moreover, is extravagantly wasted; most data centers only require "half of their average total energy usage" to offer a service that is almost identical to the service normally provided to clients.[224] The extravagant consumption of energy is due to clients' expectations of hyperreal smooth functioning and legalistic risk-management, especially given the sensitive information and nanosecond speed necessary for algo-trading. As Jacob summarizes, cloud services are "defined by three promises: fast network speeds, guaranteed data integrity, and most importantly, functional service at all times."[225]

With the rise of Google, Amazon, Facebook and Apple, it would seem adequate to talk about "deindustrialization" and "platform capitalism" as Nick Srnicek does, where, in the neoliberal era of post-Fordist production, "as a way to maintain economic growth and vitality in the face of a sluggish production sector," data has become "increasingly central to firms and their

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[221] Cubitt, *Finite Media*, 21.
[222] Bridle, *New Dark Age*, 63.
[223] James Glanz, "Power, Pollution and the Internet," https://www.nytimes.com/2012/09/23/technology/data-centers-waste-vast-amounts-of-energy-belying-industry-image.html
[224] Joe Jacob, "Data Centers: A Latent Environmental Threat," https://sites.duke.edu/lit290s-1_02_s2017/2017/03/08/data-centers-a-latent-environmental-threat/
[225] ibid.

relations with workers, customers, and other capitalists"; hence, the platform emerges as a "new business model, capable of extracting and controlling immense amounts of data."[226] We see, however, that this shift to "platform capitalism" is as ambiguous as it is "hegemonic" in the recent report on the UK, ITC and climate change:

> The statistics...highlighted the extent to which "UK plc" is already reliant on the effective functioning of the ICT sector: 98% of business reliant on ICT, 90% of high street purchases using plastic cards, £50 billion online spending, 4.2 million working flexibly, 1 million directly employed in the sector. Comparing these statistics with the unrealised potential of current ICT, there is substantial scope for growth in these numbers. As generational shift occurs, this growth will be increasingly realised and the reliance on ICT will increase at least in proportion. Equally, wider more effective application of the ICT to all forms of work will further increase the demand.[227]

The report is emphatic about not only how parasitic the economy is on the digital world but also how parasitic the digital world is on globe-wide material infrastructure ("assembly plants located to cheap labour," "international shipping routes for supply and distribution," "manufacture of chips and other ICT components," "data center locations," "telegraph poles sourced from high-latitude pine forests"). It also grimly highlights how this material infrastructure, global populations and networks of supply chains will be affected by the increasing severity of "tropical cyclones," dramatic rises in sea-levels that would affect "low-lying regions like Bangladesh, the Indian Ocean coast and the south-east Asian coast," devastated food and water supplies in China, India and the Americas due to "glacial melt," and the critical reduction of permafrost in Siberia, Canada and Alaska that puts data center and media "infrastructure at risk."[228]

Platform capitalism, as theorized by thinkers in the global North, negates the fact that much of the digital network does not replace older models of exploitation but is built on precarious infrastructures, neo-colonial practices and unregulated factories stemming out of the 19th Century and spanning across the globe. This puts a new spin on what Deleuze and Guattari, call "archaisms with a current function."[229] As Ingrid Burrington writes, the "Cloud optimizes for real-time, not geologic time"—while nevertheless appropriating the latter.[230] The data center is not a hygienic

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[226] Srnicek, *Platform Capitalism*, 6.
[227] AEA, "Adapting the ICT Sector to the Impacts of Climate Change," 28.
[228] ibid., 22.
[229] Deleuze and Guattari, *Anti-Oedipus*, 232.
[230] Burrington, "The Environmental Toll of a Netflix Binge,"
https://www.theatlantic.com/technology/archive/2015/12/there-are-no-clean-clouds/420744/

cathedral of technical efficiency. They are, as Ragnar Loobrök christens them, the "steel plants of this generation."[231]

There is no doubt that information networks of "semio" or "platform" capitalism produce economic value (i.e. increase profit), cognitive value (i.e. increase knowledge) and have acquired near omnipresence. As the AEA report on information and communications technologies elucidates, "ICT is the only sector of infrastructure that directly connects any one user to any other across time and space using multiple pathways simultaneously and capable of dynamic re-routing in real time," and while the "network is an asset at the level of infrastructure, the value of the network is not in the asset itself but in the information that travels on it" because nearly the entire British "economy relies on the ability to transmit, receive and convert streams of data in close to realtime—whether it is the extraction of cash from an ATM, the use of credit or debit card, sending an email, controlling a remote pump or switch, despatching or receiving aircraft or a mundane phone call."[232] But this "surplus of code" relies on an ICT infrastructure that relies on "ecological surpluses" that are becoming increasingly strained, exhausted and temperamental. The report is revelatory because of how starkly it presents the crisis between "domains of commodification-communication" and "domains of reproduction"—explicitly demonstrating through statistics, global heat maps and graphs how climate change will increase business costs through damages incurred by climate induced disasters:

> These systems, and many others, are so embedded in the operation of businesses and our daily lives and so reliable that we are hardly aware of their existence. We only notice them when they do not function as we expect—but they are completely integral. As was seen with the impact of Hurricane Katrina on New Orleans, the shift from post-industrial society to chaos through the failure of these systems is measured in the space of a few hours.[233]

It is precisely this "shift from post-industrial society to chaos" that has to be mapped by the geophilosophical theory of value. As the temperature of the globe rises (nature as "waste frontier") and more resources are depleted (nature as "tap"), it is not just a matter of peak oil but *peak appropriation*. "For any given forces of production, cheap nature comes to an end. Capital recognizes scarcity only through price, and price does not really cover the long run."[234] Technical innovation

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[231] Loobrök, "Are Data Centers the Steel Plants of this Generation?," https://www.orangewebsite.com/articles/data-center-pollution/
[232] AEA, "Adapting the ICT Sector to the Impacts of Climate Change," 4.
[233] ibid., 26.
[234] Wark, "The Capitalocene: On Jason Moore," http://www.publicseminar.org/2015/10/the-capitalocene/

and dynamism are not the only impetuses of successful regimes of accumulation. "Every technical fix is a geographical fix is a world-ecological fix."[235] Technology requires access to abundant flows of cheap nature. However, inasmuch as capitalist technicity opens up cheap flows of ecological surplus, it also increasingly "maxes" them out and runs out of space in its dialectic of productivity (capitalization) and plunder (appropriation):

> Capitalist technological advance not only produces a tendency for industrial production to run ahead of its raw material supply—Marx's 'general law' of underproduction. It also produces *a general law of overpollution*: the tendency to enclose and fill up waste frontiers faster than it can locate new ones....As 'resource quality'...declines, it is not only more costly to extract work/energy, *it becomes more toxic*.[236]

The general intellect is not just techno-scientific knowledge embodied in machines. It is also embodied in its relations to the atmosphere—to "spatialization" as such. The Anthropocene in the epoch of semiocapitalism forces us to re-think cognition (i.e. knowledge value, big data info-commodities, computation) from the vantage point of the earth and relations of reproduction—that is, to think a "transcendental geology" that has been repressed in a Western metaphysical tradition sutured to the hyperrealism of the cogito purged of all materiality (i.e. "*res extensa*"), alterity (i.e. otherness) and parasitic determination (i.e. structural relations of dependency). The warming world forces us to critically recalibrate the ontology and autonomy of the "sign."

This requires an ontological shift from an *expressionism* that views language as a productive force (i.e. a philosophical genealogy we could trace through Spinoza, Deleuze, Virno, Negri) to an *impressionism* that views language as embodied in the material life of metabolic geo-technicity (i.e. a philosophical genealogy we could trace through Freud, Derrida, Stiegler, Parikka). This becomes, paradoxically, a major focus and major deficit in Franco "Bifo" Berardi's work, for instance, because of his polemic against processes of "dereferentialization"[237] indigenous to semiocapitalism and financial markets, not to mention his mantra that the "general intellect is looking for a body." Within the epoch of semiocapitalism, however, we have to emphasize the fact that *to put communication to work means to automatically put nature to work*—not merely bodies (e.g. nervous systems, affects) and brains (e.g. neuronal powers, ideas) as Bifo's corpus wonderfully shows. The flesh

[235] Moore, *Capitalism in the Web of Life*, 156.
[236] ibid., 280.
[237] This refers to a post-Saussurean and post-Baudrillardian process whereby signs (monetary, financial and linguistic) are increasingly abstracted and alienated from the things they refer to.

expands past the corporeality of the human. It is also geological and machinic. Everything is, à la Bataille, a solar engine of entropy, negentropy and metabolic decadence—even semiotic flows.

As Maxwell and Miller declare contra eco-critics in the humanities, rather "than excavate the literature that *represents* the environment...we need to be aware of how the printed word *changes* that environment."[238] The "sign" exists as an amphibian interface between cognition and consumption, between "enlightenment" and "environment." As the medium of signs becomes more abstract or "dereferentialized" (from oral culture to manuscript culture, from manuscript culture to print culture, from print culture to electronic culture), *mediation becomes more metabolic.*

2.2 SEMIOCAPITALISM: A PRE-HISTORY OF PUTTING NATURE TO WORK

Paolo Virno gets flirtatiously close to a geological critique of semiocapitalism in *When the Word Becomes Flesh* (a book that has nothing to do with the earth) when, in both his critique of subjective and linguistic interiority as well as the purely *aprioristic* nature of the transcendental. For Virno, the "conditions making experience possible are themselves an object of immediate experience," the transcendental is contaminated with sensuous empirical reality.[239] In short, human elocution and the transcendental are "material" or "physiognomic" in nature—that is, it is only by manifesting as a *public* (transindividual) and *material object* (reified phenomenon) that the *transcendental* has any causal power at all. "Following John, it would be easy to rebut those self-described materialists who oppose the desiring body to a surreptitiously disembodied *logos* that has been made appear frail and impalpable."[240] John's Gospel and the patristic debates regarding the incarnation of Christ—*et verbum caro factum est* ("And the Word become flesh and dwelt among us")—retroactively opens up a path to explore not only the proto-geological critique of semiocapitalism but also the *ontological necessity* of the sign to be incarnated, materialized or reified. As Virno argues, a "Word that would not become flesh would be alienating. If the Word is not incarnated, it remains an inaccessible transcendental presupposition, an unconditioned condition that escapes experience while making it possible."[241]

If *fetishism* imbues a meaningless object with powers that only belong to the mind (the object is invested with an imaginary soul or self-animating power), *alienation* implies the infinite regression

[238] Maxwell and Miller, *Greening the Media*, 42.
[239] Virno, *When the Word Becomes Flesh*, 17.
[240] ibid., 111.
[241] ibid., 139.

toward suffocating introversion (the soul is restricted to a pure object of solipsistic interiority). For Virno, reification is an antidote to both. This is how Virno understands the general intellect as the collective powers of cognition *realizing* themselves in an objectified system of machinery:

> The machine gives a spatio-temporal dimension to the collective, species-specific aspects of human thought. The pre-individual reality present in the human subject, unable to find an adequate expression in the representations of the individual consciousness, is projected in the external world into systems of universally receivable signs, intelligent machines, logical schemes made *res*.[242]

Reification implies a process of exteriorization, individuation—the metamorphosis of something internal to something external: as McKenzie Wark explains, "pure consciousness needs an external objectivication if it is not to fold back into alienation or end up imputing spirit to mere external things. The condition of possibility of subjectivity and consciousness are external."[243]

Reification is that which "places the transcendental outside the I and by doing so allows it to experience itself directly," preventing it from lapsing into the "privations and the misery of an introverted life."[244] However, rather than locate the transcendental operator in *technical objects* that constitute human becoming or anthropogenesis (Stiegler, Simondon), Virno consistently finds the transcendental in *verbal language* or the *linguistic faculty* of human nature—in other words, the "transcendental is the 'between' of the human relations, that is, the original public nature of the human mind" that manifests primarily through the material fabric or political network of speech acts that determine the social world.[245]

One reason for not pushing the full implications of the "transcendental between," "exteriorization" and "reification" to their breaking point and lapsing back into linguistic anthropogenesis is that, as Giorgio Agamben reminds us, linguistic anthropogenesis always partakes in a fundamental *repression* or operation of *severance*, one that enables human beings to constitute themselves as structurally autonomous creatures of reason and exception: the anthropological machine "necessarily functions by means of an exclusion (which is also always already a capturing) and an inclusion (which is also always already an exclusion)."[246] Anthropogenesis "is what results from the caesura and articulation between human and

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[242] ibid., 147.
[243] Wark, "Virno on Human Nature," http://www.publicseminar.org/2016/07/virno3/
[244] Virno, *When the Word Becomes Flesh*, 165, 164.
[245] ibid., 165.
[246] Agamben, *The Open*, 37.

animal."[247] The anthropological machine cuts off or suspends human beings from the animal. It also cuts off and suspends the human from the geological: "*the flesh of the Word does not come from the muck of the Earth*, but from the Word itself. *The Word becomes flesh by itself, in itself and for itself.*"[248] This uncannily echoes Marazzi's insistence about the autonomization of knowledge circulation:

> Thanks to new technologies and to the reticular organization of productive/distributive processes, knowledge is no longer embodied in 'some other thing,' in machines or materials or finished products, but in *knowledge work* itself. Communication support systems—codes, languages, shared meanings—allow knowledge to circulate on its own, independently of fixed capital or legal ownership.[249]

We have to say with and against Virno, however, *that the outside of logos grounds logos*, that epistemic processes and their transmission in the epoch of semiocapitalism are more reliant on the earth than any other period in history. The problem Virno, Lazzarato, Negri and Marazzi perpetually encounter is that they do not account for how the technical apparatus is embodied—either in its geological materiality (i.e. incarnation) or in the energy flows that power it (i.e. electricity, oil, etc.). Subjectivity and its machines are always already "there," "present" or "ready-to-hand."

Bernard Stiegler will encounter that same problem in his account of "retentional systems" and "grammatization"—even if he will at times better emphasize how the social brain "spatializes" itself. If Jacques Derrida's "governing theme of *Grammatology* was the question of the 'repression' of writing in Western metaphysics, Stiegler's [*Technics and Time*] reformulates this question in terms of the repression of technology."[250] For Stiegler technogenesis constitutes anthropogenesis: the "*who* is nothing without the *what*, and conversely" because "the interior is constituted in exteriorization....Leroi-Gourhan in fact says that it is the tool, that is, *tekhnē*, that invents the human, not the human who invents the technical."[251] Technics govern the horizon of possibility for human existence—especially as regards knowledge transmission, time and memory (retentional) systems. Technics are defined as the organization of inorganic matter; the term designates "both the history of fabricated objects (e.g. flint, hammers, pencils, computers) and the domain of *techne*: the techniques and practices involved in making (something with) technology."[252] Predicated on the

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[247] ibid., 79.
[248] Virno, *When the Word Becomes Flesh*, 140. My emphasis.
[249] Marazzi, *Capital and Language*, 50.
[250] Johnson, "The Prehistory of Technology: On the Contribution of Leroi-Gourhan," 34.
[251] Stiegler, *Technics and Time: The Fault of Epimetheus*, 141.
[252] Tinnel, "Grammatization: Bernard Stiegler's Theory of Writing and Technology," 134.

"logic of supplementarity," the exteriority of technics and writing technologies "exceed and condition the interior life of the mind."[253] Technology as supplement means that it is not an *augmentation* or *addition* to something already sufficient, full and present to itself; rather, technology exposes a lack, *insufficiency* or *dependency* at the heart of hominization.

It is in this sense that "tertiary retention" (transindividual memory incarnate in technical objects)[254] is a transcendental "support" for Stiegler:

> But from the beginning of that process of hominization that André Leroi-Gourhan describes as a process of exteriorization, all technical objects constitute an intergenerational support of memory which, as *material culture*, overdetermines learning...and mnesic activities. To this extent, therefore, tertiary retention always already precedes the constitution of primary and secondary retention. A newborn child arrives into the world in which tertiary retention both precedes and awaits it, and which precisely, constitutes this world *as* world. And as the spatialization of individual time becoming thereby collective time, tertiary retention is an original exteriorization of mind.[255]

The deep structure of memory that conditions knowledge is transferable only through a process of concretization via technics—of consciousness reifying itself in objects that become "orphaned" from their "origin." This is, moreover, only possible for Stiegler on the basis of a more fundamental process of "grammatization"—from *gramme*, "written mark"—or what Tinnel calls "orthographic continuums."[256] It is precisely this "arche-writing" as memory, primordial mediation, reproduction and apparatus of recording that is crucial because it is the originary *condition* of "vulgar" writing, perception and consciousness as such.

Grammatization as a process of *mnemotechnics* is a process of "technical-remembering" (i.e. a system capable of recording, storing and sharing info). As Tinnel summarizes, grammatization refers to "processes by which a material, sensory, or symbolic flux becomes a gramme, which—broadly conceived—can include all manners of technical gestures that maintain their iterability and citationality apart from an origin or any one particular context."[257] This aspect of "detachment" inherent to "iterability" or "orthographic reproduction" is crucial to Derrida because it enables him to invert a number of problems—i.e. "the metaphysics of presence" and the

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[253] ibid., 139.
[254] Primary retentions are sensations contracted in the present which passes. Secondary retentions are individual memory—the becoming past that in turn shapes and records primary retentions.
[255] Stiegler, *For a New Critique of Political Economy*, 9.
[256] Tinnel, "Grammatization: Bernard Stiegler's Theory of Writing and Technology," 140.
[257] ibid., 135

"transcendental signified" that impose their hermeneutical authority on the horizon of their readers; but more than this, no signification is possible without the spacing effects of *differànce*, of the differential play of signifiers infinitely deferring transcendental signifieds (i.e. fixed meanings). For Stiegler, likewise, "all manner of ancient and contemporary technics" function as "distinct iterations of arche-writing"—evident in "early picto/ideo-graphic writing, alphabetic writing, industrial machines, photography, cinema, digital media, and biotechnology."[258]

Curiously, this is how both Canadian media philosophers Harold Innis and Marshall McLuhan describe how different "writing systems" have the ability to radically shape and structure the consciousness, politics and economics of their users. As Innis writes, "the art of writing provided man with a transpersonal memory. Men were given an artificially extended and verifiable memory of objects and events not present to sight or recollection."[259] McLuhan also elaborates Innis' position that empires are determined by the efficiency and nature of their mediums of communication—"stone" is a heavier medium predicated on the slow changing, quasi-permanence of tradition, while "paper" is a light medium predicated on mobility and military logistics:

> Innis observed that writing upon stone and clay created priestly bureaucracies and gave command over time because of the permanence of the record. Writing on paper, on the other hand, created military bureaucracies and gave command over space because of the ease with which information written upon paper could be transported and hence provided command at a distance.[260]

McLuhan, following Innis, also develops the same "Derridean" insight about the dislocating essence of iterability and grammatization: with "writing, what is recorded or remembered becomes separate from the writer, existing in a book or scroll. Knowledge takes on objective identity, separate from the knower."[261] McLuhan even claims that the Greeks "developed the notion of objectivity and detachment, the separation of the knower from the object of his awareness"—and

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[258] ibid., 140. This can be observed in the industrial setting—especially Taylorization—where the muscular flux of worker's movements is systematically broken down (grammatized) so that workers become not only more productive and efficient but eventually replaced by automated machines altogether. This industrialization of the muscular system is only intensified in an automated era of algorithms that are able to predict, replicate and replace certain noetic behavior.

[259] Innis, *Empire and Communications*, 7.

[260] McLuhan and Logan, "Alphabet, Mother of Invention," 374.

[261] ibid., 378.

that this detachment is the *precondition* of scientific knowledge, presumably situating the thinker in the ideal position of a-local "disinterestedness."[262]

"Writing systems" (McLuhan), "arche-writing" (Derrida) or an "economy of retention" (Stiegler) are not really the issue *per se*. While all of these mediatic processes make up a regime of "tertiary retention" (where memory becomes technical, social and transindividual) and "constitute a process of grammatization," (where a flux of language and human behaviour becomes broken down into a system of discrete elements that enable it to be reproduced), their reproducibility is reduced to *the internal operations of the writing system*, *a theory of meaning* or *noetic indexes*—spacing, iterability, citationality, and sign differentials—even though these "repressed" spectral operations disrupt the "metaphysics of presence." The orthographic stability that enables a "gramme" (written mark) to be reproduced, orphaned and separated from the confines of a single hermeneutical authority has an even greater dependence on a "telluric element" or "substratum" (e.g. stone, paper, silicon) paradoxically "orphaned" from the earth, which leads us to argue that beyond "a flux of logos" or "technogenesis," *at the heart of mediation is the metabolic.*

The real issue with theories of "grammatization" or "orthographic continuums" is that they form a feedback loop between *techne* (technical machines), *temporality* (memory) and *episteme* (knowledge) that eschews the insight of "exteriorization" or "spatialization" of the mind, reducing it to (technical) *object* or (linguistic) *thing*. What results is the *repression of the metabolic integral to systems of writing, grammatization and the externalization of the mind*—or, what we can call, following Deleuze and Guattari, a repression of the "deterritorialization of the mouth":

> The mouth, tongue, and teeth find their primitive territoriality in food. In giving themselves over to the articulation of sounds, the mouth, tongue, and teeth deterritorialize. Thus, there is a certain disjunction between eating and speaking, and even more, despite all appearances, between eating and writing, but writing goes further in transforming words into things capable of competing with food.[263]

In the epoch of semiocapitalism, however, this disjunction between eating and writing breaks down to a degree even more intense than in European printing culture. We cannot say with Deleuze and Guattari, however, that to "speak, and above all to write, is to fast."[264] In a very real way, "writing" deterritorializes itself further into the "primitive territoriality of food"—becoming, in the process,

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[262] ibid., 378.
[263] Deleuze and Guattari, *Kafka: Toward a Minor Literature*, 19-20.
[264] ibid., 20.

a sublime parasite. Semiotic entities have stomachs. Incarnation implies exhaustion. Archival machines have fevers. These concepts lose their metaphoricity in the warming world, where oil is the subterranean lubricant of all narration.

We often forget that the prefiguration and processes leading up to the Enlightenment (i.e. the revolutionizing of the means of knowledge transmission) were intrinsically entangled with the geological—that is, by the "grammatizing" and mediatic device par excellence of Johannes Gutenberg's printing press (1440), which radically altered how communication and the dissemination of knowledge took place. It also opens up "semiotic fluxes" to a new epoch in the history of substrates and the problematic of impression. The typographer Beatrice Warde suggests that the ability to broadcast identical "messages to a thousand or more people, a thousand or more miles apart" inaugurates what is referred to as "modern times."[265] Warde also attributes "the spread of literacy and hence to the universal franchise to further technological developments in making paper and printing on it" to the communicative power opened up by the printing press.[266] However, Gutenberg's printing copies of the Bible censors a more radical form of "primitive incarnation" present in John's Gospel—that is, how the epistemic and semiotic (contra Virno) coagulate from the "muck of the earth." "Biblical printing consequently expanded the use of copper, lead, antimony, and tin."[267] This requires us to expand our notions of mediation—a post-Kantian computationality that shows not only how that "concept" organizes the "sensory manifold of intuitions" emanating from the noumenal but also siphons energy from the noumenal itself in order to "computate." As Cubitt argues, mediation is first and foremost material rather than conceptual (representational) or communicative (intersubjective): "[m]ediations are not communications (though all communications are mediated). Mediating does not require messages, nor even senders and receivers.... Mediation names the material processes connecting human and non-human events."[268]

The incarnation of the "gramme" has a long history. As the growth of readers started to outpace the "supply of handmade documents produced by scribes," manual lettering became obsolete and a new amalgam of innovations spawned: "movable metal type, oil-based ink, and

[265] Maxwell and Miller, Greening the Media, 47
[266] ibid., 47
[267] ibid., 47
[268] Cubitt, *Finite Media*, 3-4.

wooden hand-presses."[269] The ink was a composite of three different elements: lampblack (which is deleterious to the lungs and mucous membranes), turpentine (which is deleterious to the nervous system, liver and kidneys), and boiled linseed oil (which caused skin irritations). "For most of the nineteenth century, turpentine extraction and distillation in the southern United States depended on slave labour; after the Civil War, forced labor became the norm."[270] Turpentine was primarily extracted from pine trees and became "increasingly labor and forest intensive."[271] From the early 1800's, as printing presses became more mechanical they also became more heavily reliant on fossil fuels. They not only increased the volume of printed pages able to be produced through coal and steam power but also contributed more significantly to atmospheric pollution. This is not even to mention the exorbitant demand for wood-pulp that subsequently increased as commercial print media and the advertising industry grew:

> Between 1899 and 1919, as these and other innovations—such as illustrations and telegraph networks—were standardized, tonnage consumption of processed wood pulp expanded by 1,175 percent in the United States alone. Advertising expenditures in print grew 742 percent in the same period, fuelling a 'startling increase' in newspaper, book, and paperboard consumption: from 25 pounds per capita in 1909 to 59 pounds in 1930. In 1925, a New York newspaper accounted for 2,000 acres of forest. By 1930, papermaking had become 'one of the principle industries polluting water.'[272]

As Maxwell and Miller continue to demonstrate, this trend continues in the twentieth and twenty-first centuries—the epoch of semiocapitalism. They force us to recognize that "grammatization" is predicated on a deeper *reproductive schema* or modus operandi that is consumptive, that the "exteriorization of the brain" and knowledge production is a process inseparable from exhaustion and the chemical-metabolic processes of the earth system, especially, now, the atmosphere:

> By the end of the twentieth century, the pulp and paper industry was the 'second largest consumer of energy' within the world's largest consumer of energy, the United States; the principle industrial consumer of water; and third largest greenhouse gas emitter across wealthy democracies of the OECD. In 2006, US papermaking used seventy-five billion kilowatt hours of energy, lagging behind just one industry: petroleum....By 2011, the United States produced nearly 100 million tons of paper annually, or about 663 pounds per person, of which approximately 90 percent was not recycled after use....The US book industry estimates the annual carbon impact of books at between 11.3 and 12.4 million tons,

[269] Maxwell and Miller, *Greening the Media*, 47.
[270] ibid., 47.
[271] ibid., 47.
[272] ibid., 49.

> equivalent to the total emissions from between two and seven million cars....Scholarly journals are responsible for twelve million tons per year worldwide.[273]

This is not even going into the history of telegraphy and telecommunications—which, through the course of its development, devoured copious amounts of elements used in batteries (i.e. zinc, sulfuric acid, nitric acid, mercury), wires, telephone lines and under-sea internet cables (i.e. copper).

The social brain—the *general intellect*—requires larger and larger amounts of the earth's raw materials in order to sustain itself—to produce "value." But this symbiosis is not unidirectional, as if "cognition" was immune from the vagaries of the climate and only served to perpetually extract inputs for its thinking machines. The climate also consumes cognition:

> In 2015, and for the first time in at least 800,000 years, atmospheric carbon dioxide passed 400 ppm. At its current rate, which shows no sign of abating, and we show no sign of stopping, atmospheric CO2 sill pass 1,000 ppm by the end of the century.
>
> At 1,000 ppm, human cognitive ability drops by 21 percent. At higher atmospheric concentrations, CO2 stops us from thinking clearly. Outdoor CO2 already reaches 500 ppm regularly in industrial cities: indoors, in poorly ventilated homes, schools, and workplaces, it can regularly exceed 1,000 ppm—substantial numbers of schools in California and Texas measured in 2012 breached 2,000 ppm.[274]

Given the scale of our digital networks, media infrastructures and cognitive interfaces that extract sublime amounts of data in real-time, "thinking about climate change is degraded by climate change itself."[275] The spatialization of "semiotic fluxes"—via reification, grammatization and writing systems—at this moment of semiocapitalism begins to generate aneurysms upon aneurysms of contradictions. The computation systems we have built to understand the world begin— from Gutenberg (printing presses) to Zuckerberg (data centers), through centuries of complicated entanglements, capital accumulation and fossil fuel use—to collapse the very process of understanding. It is the energetic analytic, the relations of reproduction of the social brain and spectral petro-trace that remains unthought in the ontologies of the "sign" and "grammes." Are we really in an era of "peak knowledge" as Bridle implies?[276] This is a question I will try to address in the final chapter.

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[273] ibid., 50-51.
[274] Bridle, *New Dark Age*, 74-75.
[275] ibid., 75.
[276] ibid. 73.

Following Peter Sloterdijk, we have to affirm that anthropogenesis is coterminous with space creation, where humans require spheres to live—surreal autogenous containers or "prosthetic husks" of "immunological dwelling" and "pneumatic value." The *supplement* in Sloterdijk, while similar to Derrida and Stiegler, actually folds within its grasp not the typical anti-orgasmic *temporal spacing of difference and deferral* or a *transindividual process of mnemotechnics* but instead a *vitalistic geometry of air-conditioning dependencies* (both atmospheric and prosthetic). On one hand, this registers as a "general theory of immune systems" that articulates techno-symbolic processes of shell ontogenesis integral to civilizations:

> Modernity is characterized by the technical production of its immunities and the increasing removal of its safety structures from the traditional theological and cosmological narratives. Industrial-scale civilization, the welfare state, the world market and the media sphere: all of these large-scale projects aim, in a shelless time, for an imitation of the now impossible, imaginary spheric security. Now networks and insurance policies are meant to replace the celestial domes; telecommunications has to re-enact the all-encompassing. The body of humanity seeks to create a new immune constitution in an electronic medial skin.[277]

On the other, it is a novel "breath science" that—in an age of global warming and atmospheric asphyxiation, where our very mediatic immune systems attack themselves—forces us to reconsider the Judaic-Christian symbiosis or "pneumatic reciprocity" between *breath* and *thought*, *inspiration* and *idea*. In other words, ideal air-conditioning (the atmosphere in the non-metaphoric sense) is a pre-condition for ideal cognition—that is, the development of the general intellect. The "breathing-in of life is not simply an ornamental supplement to an autonomous bodily massif" but a necessary installation that generates a "pneumatic or noogenic bonus."[278]

As experiments in climate geo-engineering and emulation like Biosphere 2 attest to, breath—and its breaking-down in an epoch of atmo-terrorism—once again becomes a theo-technology needing to be examined, questioned and increasingly manufactured: "[b]reath was" (and is again becoming) "the epitome of a divine technology capable of closing the ontological gap between clay idol and the animated human with a pneumatic sleight of hand."[279]

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[277] Sloterdijk, *Bubbles*, 25.
[278] ibid., 36, 39.
[279] ibid., 37.

2.3 EXPULSION MACHINES: A NEGATIVE TRANSCENDENTAL REGIME

"Value does not work unless most *work* is not valued."[280] As I have tried to show, following Moore and Federici, capitalism does not univocally value everything. The production of value is highly specific in its computations of monetary and social worth: it "does not value everything, only labor-power in the circuit of capital—and therefore rests on a series of devaluations."[281] Capitalism is increasingly externalization costs. The "conversion of the atmosphere into a dumping ground for greenhouse gases is a prime example. Such externalization of costs is also the internalization of spaces necessary for capital accumulation"—hence, the atmosphere "must be put to work as capital's unpaid garbage man."[282]

This process of devalorization and externalization leads Vinay Gidwani and Anant Maringanti to develop the "waste-value dialectic" of capitalism.[283] The waste-value dialectic articulates the fact that "the conditions of possibility of capitalist value lie in bodies, places, and things that come to be designated at the front end and back end of capitalism as waste," where waste is a "vital, heterogenous entity that must be effaced, enrolled, exported, or expunged."[284] The detritus of the commodity has to be managed in order that the circuit of capital accumulation is not interrupted: places of waste operate as "receptacles for capitalism's detritus, even more, as toxic sinks and relay points in an infra-economy that continuously repairs and renews capital's conditions of production," a *spectral infrastructural labour* that "repairs and renews the city, continuously recreating the *conditions of possibility* for urban life and capitalist enterprise."[285] This infrastructural labour is precisely the expansive labour of reproduction.

As Mary Douglas argues in her brilliant structural analysis of how pathogenic elements (i.e. dirt) are not extraneous objects of dejection but work to legitimize and construct a stable, hygienic order: where "there is dirt there is system. Dirt is the by-product of a systemic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements."[286] Waste—and the violence of its expulsion—is essential to the functioning of any system. It is the non-sublatable excess that haunts order's rational and productive enterprises. Echoing the

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[280] Moore, *Capitalism in the Web of Life*, 54.
[281] ibid., 65.
[282] ibid., 101.
[283] Gidwani and Maringanti, "The Waste-Value Dialectic," 125.
[284] ibid., 125.
[285] ibid., 126, 113. My emphasis.
[286] Douglas, *Purity and Danger*, 44.

conclusions that Baudrillard made in the 1970s, Sean Cubitt makes clear that waste "is not an unfortunate by-product of consumerism. Without waste there is no consumer capital."[287] This waste includes the "e-waste" generated by technological infrastructure and media devices to the built-in obsolescence "required to generate new debt for new sales of new equipment to disciplined consumers in the new mode of destruction" but also "populations excluded from the centers of capital."[288] Waste does not happen at the end of a commodity's life but is at work at all stages of the production process.

As Parikka reminds us, moreover, obsolete technology and consumer goods, even once they have "disappeared," refuse to die: "media persists as electronic waste, toxic residue, and its own sort of fossil layer of disused gadgets and electronics."[289] It becomes "zombie media" and accumulates in areas all over the world—especially China and Africa. Zombie media is, following Walter Benjamin and Jennifer Gabyrs, what happens to the mediatic once it is released from the luminescent, propulsive and wishful dimensions of the "sign" and "desire," re-entering the hypokinetic strata of natural history, mortal decay and geology:

> In the United States, about 400 million units of consumer electronics are discarded every year. Electronic waste, like obsolete cellular telephones, computers, monitors, televisions, composes the fastest growing and most toxic portion of waste in American society. As a result of rapid technological change, low initial cost, and planned obsolescence, the federal Environmental Protection Agency (EPA) estimates that two-thirds of all discarded consumer electronics still work—approximately 250 million functioning computers, televisions, VCRs, and cell phones are discarded each year in the United States.[290]

The logic of new media is predicated on short-termism. Paradoxically, this short-termism enters into the "long-termism" of geological time-scales and global populations due to its toxic afterlife. This afterlife, moreover, is one that continues to grow. According to a United Nations report issued in 2017, the officials estimated that in 2018 global e-waste output was "50 million metric tons," a significant increase from the total output in 2014, which was "estimated to be around 41.8 million metric tons"—a lot of which ends up in geographies of disposal (China, India, Nigeria).[291]

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[287] Cubitt, *Finite Media*, 116.
[288] ibid., 116.
[289] Parikka, *A Geology of Media*, 141.
[290] ibid., 141-142.
[291] Boteler, "UN estimates 50M metric tons of e-waste to be generated in 2018," https://www.wastedive.com/news/un-estimates-50m-metric-tons-of-e-waste-to-be-generated-in-2018/512324/

Garbology undermines the Deleuzean "society of flows" and forces us to think "sites of unexpected accumulation."[292]

In short, the negative transcendental regime makes experience possible through perennial efforts of expulsion: the apriori ("before experience") and aposteriori ("after experience") are subsumed under a single centrifugal logic. Were not the "cogito" (Descartes) and the "ego" (Freud)—denizens of the "sign" and "desire"—always expulsion machines par excellence? One has to expel the tremors of doubt from creeping inside the foundational noosphere (inoculating itself from the uncertainties of *res extensa*). The other has to expel the tremors of trauma to the waste receptacle of repressed material (the unconscious, which flares up in bodily ciphers and symptoms). For detritus not to accumulate and clog the existential circuits of experience for the cognitariat in the metropolis, the pollution and e-waste that happens in knowledge production centers of semiocapital have to be pushed outside of it—made independent of experience—so that "pure reason" can function smoothly. "All that is hidden, evacuated or banished derives from this centrifugal logic, which consigns beings and things to the world of *waste* and holds them there in the name of the Ideal."[293] Less facetiously, this negative transcendental regime makes the metropolitian social commons and production possible through performing the double function of *reproducing the life-worlds of the capitalist economy* while at the same time *inoculating them from the deleterious effects of their own detritus*. As Moore has exhaustively argued, though, these relations of reproduction are becoming more and more strained, precarious and unyielding. Inoculation is becoming more difficult to maintain as the globe boils. Capitalism is running out of space.

To conclude with the brilliant insights of Federici, the fate of the general intellect will not rest in its ability to desuture work-time from life-time, ushering in an iridescent age of luxury automated communism, but instead in its ability to radically alter its relations of reproduction, the waste-value dialectic and social metabolism:

> Reflecting on the activities that reproduce our life dispels the illusion that the automation of production may create the material conditions for a nonexploitative society, showing that the obstacle to revolution is not the lack of technological know-how, but the divisions that capitalist development produces in the working class.[294]

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[292] Gabrys, *Digital Rubbish*, 13.
[293] Bourriaud, *The Exform*, xi.
[294] Federici, "The Reproduction of Labor Power in the Global Economy," 93.

The crises that we face in this moment of history will increasingly become (and already are) *geological* (i.e. the scarcity of cheap nature), *geopsychological* (i.e. the precarity of pneumatic symbiosis between cognition and climate) and *geopolitical* (i.e. international wars over resources) in essence: "the danger today is that besides devouring the earth, capitalism unleashes more wars of the kind the United States has launched in Afghanistan and Iraq, sparked by the corporate determination to appropriate all the planet's natural resources and control the world economy."[295]

[295] ibid., 93. As Parikka notes in *A Geology of Media*, geologists are collaborating with the Pentagon to scout for a cornucopia of resources in the Middle East: "for instance, in Afghanistan, in parallel to military operations of war against terrorism, geologists are mapping the resource basis of the country. It promises, besides copper, iron, and gold, also lithium—even enough for Afghanistan to be branded the 'Saudi Arabia of lithium' (6).

GREY ECOLOGY: BOREDOM IN THE ANTHROBSCENE

> *At Netflix, we are competing for our customer's time, so our competitors include Snapchat, YouTube, sleep, etc.*
>
> —Reed Hastings, Netflix CEO

> *The sheer, asymptotic, never-delivered promise of the media flow demands a compulsive refresh of our screens. Real time is the new temporal standard. Enormous amounts of energy are expended for everything to be streaming live, so that we are not stranded in the past, in history, in the archive, where we might gather dust.*
>
> —Dominic Pettman, *Infinite Distraction*

> *If, under neoliberalism, the gulf between enclaved rich and outcast poor has become ever more pronounced, ours is also an era of enclaved time wherein for many speed has become a self-justifying, propulsive ethic that renders 'uneventful' violence (to those who live remote from its attritional lethality) a weak claimant on our time.*
>
> —Rob Nixon, *Slow Violence*

3.0 INTRODUCTION: NOTES ON THE NETFLIXICATION OF ECOLOGY

We have seen that semiocapitalism is a geological operator. We have to say, in a perverse Baudrillardian inversion, however, that the Anthropocene is also a semiotic operator. The Anthropocene does not merely index, as Dispesh Chakrabarty famously argues, an industrial metamorphosis of mankind from *psycho-biological agents* to *geological agents* who no longer interact with nature in a simple unidirectional way but "are a force of nature in the geological sense."[296] Alongside the environmental consequences of data centers, the materiality of media and the metabolism of simulacra, we ask what happens to the Anthropocene when it enters into the virtual realm of the mediasphere as a floating, groundless simulacral object of pure fascination (e.g. Edward Burtynsky) and metaphysical contemplation (e.g. Timothy Morton)? With Baudrillard, while at the same time going beyond his post-Kantian hysteria of *representation* cancelling out the *noumena*, even critically raising it to a new material dimension since we have already shown how information and simulacra production contribute to catastrophe in a very real and geological sense, we inquire into the Anthropocene as a *media event* in all of its dimensions:

> They are *virtual* and the virtual is what puts an end to all negativity, and thus to all reference to the real or to events. At a stroke, the contagion of images, engendering themselves

[296] Chakrabarty, "The Climate of History: Four Theses," 205-207.

> without reference to a real or an imaginary, itself becomes virtually without limits, and this limitless engendering produces *information as catastrophe*....However this may be, that image raises the problem of its indifference to the world, and thus of our indifference to *it*—which is a political problem. When television becomes the strategic space of the event, it sets itself up as a deadly self-reference, it becomes a bachelor machine. The real object is wiped out by news—not merely alienated, but abolished. All that remains of it are traces on a monitoring screen....Spectators then become *exoterics* of the screen, living their revolution as an exoticism of images, themselves exogenous, touristic spectators of a virtual history.[297]

What are the conditions of visibility of the Anthropocene—and its complex geo-materialism—in the epoch of semiocapitalism, where everything must turn into iridescent pixellations of imagery, units of data, ephemeral sign-objects—when the "strategic space of the event" is mediatic (in either sense of the spectators' personal computer or geopolitical planetary computation)?

In the last few decades, there have been an innumerable proliferation of Hollywood films that depict the end of the world in the context of an apocalyptic framework: *Mad Max* (1979), *The Matrix* (1999), *The Day After Tomorrow* (2004), *Children of Men* (2006), *I Am Legend* (2007), *The Road* (2009), *Melancholia* (2011), *World War Z* (2013) and *Train to Busan* (2016). For the most part, the Anthropocene has been condensed into a repetitive series of spectacular images of apocalyptic collapse, an eschatology that renders the future obsolete, a negative future that spirals toward collapse and a devolution into bleak primitivism.[298] There have also been numerous documentaries made over the past decade trying to bring "awareness" to ecological problems: from *An Inconvenient Truth* (2006), *Manufactured Landscapes* (2006), *Watermark* (2013) to the most recent *Anthropocene: The Human Epoch* (2018). Yet, the old contradiction persists: as Alexander M. Stoner and Andony Melathopoulos put it in *Freedom in the Anthropocene*, how can "a society that emerges from the Industrial Revolution...be both conscious of the degradation of planetary systems *and* seemingly powerless to do anything about it[?]"[299] It is only partially true, then, when Rob Nixon claims that

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[297] Baudrillard, *The Illusion of the End*, 55-56.

[298] Rather than be used as a prism to critique our economic and political situation and envisage a future beyond the current one, mainstream images of the Anthropocene tend to fetishize a paltry analytic of human finitude (with all its moralistic didacticism, consumerist guilt-mongering and technophobia) or as a technocratic problem to be solved and managed in the same fashion as any other crisis (like the 2008 financial crash or the 2010 BP oil disaster).

[299] Stoner and Melathopoulos, *Freedom in the Anthropocene*, 42. One answer is immediately and unsurprisingly true: neoliberal market immanentization. The problem is one of "visibility" but first and foremost a problem of neoliberal political economy. What we are seeing at the moment is a grandiose transfixion with the *carbon market* and not *carbon emissions*. The various abatement mechanisms—carbon pricing, carbon tax, offsets—for the reduction of carbon dioxide in the atmosphere put forward, for example, by Justin Trudeau's Liberal Party are not only not aggressive enough but unabashedly fetishize the primacy of economic rationality, practice and stability. Ultimately, market-based environmental policies encourage industrial enterprises to continue to discharge

ecological devastation has been made into a spectral object of inattention due to the incompatibility of our "flickering attention spans" to coherently map instances of delayed and dispersed ruination.[300]

Nixon, furthermore, has tried to distil the contradiction inherent in geological perception as it expresses itself in the radical antinomy between the two scalar extremes of mutual deterioration, a deterioration of "life-sustaining circuits of planetary biophysics" and "the wired-brain's neural circuitry":

> Over the past two decades, this high-speed planetary modification has been accompanied (at least for those increasing billions who have access to the Internet) by rapid modifications to the human cortex. It is difficult, but necessary, to consider simultaneously a geologically-paced plasticity, however relatively rapid, and the plasticity of brain circuits reprogrammed by a digital world that threatens to "info-whelm" us into a state of perpetual distraction. If an awareness of the Great Acceleration is (to put it mildly) unevenly distributed, the experience of accelerated connectivity (and the paradoxical disconnects that can accompany it) is increasingly widespread.[301]

Nixon does not go far enough here, though; despite the usefulness of the antinomy. Besides not making the connection that this "info-whelm" is itself already a *material* not simply *neurological*, source of immense geological attrition, Nixon fails to address the crucial concepts of *competition*, *obscenity* and *post-political populism* integral to semiocapitalism's social production schema. As a result, the temporally dispersed "non-event" of slow violence gets condensed into the semi-reactionary problematic of *distraction*.[302] This leads us to the problem of the "Netflixication of ecology"—where

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atmospheric pollutants because they can buy credits from other firms. Pollution trading and carbon tax enables firms to *pay for the right to pollute*. This is not carbon mitigation but carbon business. The "self-regulating" market wraps itself in a quasi-theological aura that intransigently immunizes itself from structural critique. In this sense, *the market is more natural than nature*. This is precisely why there needs to be an abysmal swarm of "incentives" to appease it: global ecological disasters themselves are not adequate catalysts for change. Profit flows have to be manipulated and redirected. The schisms inherent in the attention economy only add insult to injury. However, taken together with market immanentization, they also help us understand why the Anthropocene simultaneously remains a flickering, amphibian object of fascination and indifference rather than a catalyst of revolt or radical social change.

[300] Nixon, *Slow Violence*, 6.

[301] ibid., 11, 12.

[302] "Speed," moreover, (and perhaps contra Virilio) is not the issue *per se*. To rapidly disentangle the globe from capitalist social and material relations would be an ideal achievement. To rapidly address the urgency of climate change would also be an ideal accomplishment. Likewise, speed can be ecstatic and fecund if accommodating to a multiplicity of shared temporal and existential rhythms. Nixon is, obviously, critiquing acceleration as a quasi-hegemonic rhythm imposed by capitalist demand and networked life. This is also *not* to say that Nixon is oblivious to how the "managerial rationality" of neoliberal political economy and policy making contributes to the problem of "slow violence"; it is just to say that in the course of his theoretical matrix that problem gets reduced to a spectacle/geological dichotomy.

"awareness" fetishistically becomes the highest politico-ethical practice or driver of change, especially in a moment where we are living under the "dispositif of the image" and in a supposedly informatic and "self-reflexive modernity."[303]

The Netflixication of ecology involves three intertwined problems—*obscenity*, *post-political populism* and *competition*—that generate the combined effect of *spectralization* and *grey ecology*—that is, how the very circulation of visibility (meant to increase attention toward ecological crises) and "stimulatory regimes" of semiocapitalism simultaneously make eco-objects "invisible," "opaque," "boring" and "lackluster." Obscenity names the paradoxical process whereby *simulacra* (images, data, virtual phenomena) take precedence, achromatize and spectralize the *real object* they attempt to represent. Post-political populism names the process whereby social antagonisms are displaced, and demands for climate change are "addressed to the elites," technocrats and experts—such that, it is less a problem of "replacing the elites" and re-structuring social relations than "calling on the elites to take action."[304] Lastly, competition—in this context—names the process whereby our attention is unevenly distributed and competed for by multinational corporations like Netflix, Google, YouTube, Twitter and Instagram, which transmutes our collective attentional flux into a scarce resource that not only *cannot be everywhere at once* (i.e. be solely engineered around looming ecological priorities) but also *reduces the visibility, luminosity and desirability of phenomena that do not contribute to economic valorization* (i.e. profit) or *egocentric human capital* (i.e. self-aggrandizing social capital measured in "likes" on platforms such as Facebook and Instagram).

This leads us to what can be called the "Anthrobscene"—hijacking the term from Jussi Parikka (who only uses it flippantly to designate the exploitative role of capitalism within the environment) in order that we can extract from it the "obscenity" that Jean Baudrillard theorized. The Anthrobscene is a term used here to designate the phenomenon that occurs when the "Anthropocene" enters into the virtual realm and logic of the mediasphere and is thus converted into a reductive problem of "attention" (consciousness, awareness-raising, spectacle) and the

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[303] Of course, "consciousness raising" is absolutely important—just see György Lukács *History and Class Consciousness* on the dialectical mediation between theory and practice necessary for the proletariat to determine their existence rather than be oppressively subject to it as mere spectators. Mark Fisher also makes it clear that the anti-capitalist left is competing against heavily funded advertisement companies and needs to develop counter-libidinal tactics (not simply miserabilist and libidinal dampening ones that disregard images, entertainment and cultural altogether); similarly, Geert Lovenik and others will speak about "revolutionary memes."

[304] Swyngedouw, "Apocalypse Forever?: Post-Political Populism and the Spectre of Climate Change," 223.

"experts" (technocrats, political institutions, academics, scientists) rather than a problem of collective praxis. Thus, the first section questions the process of "exhaustive visualization" as a critique of representational eco-politics and the second section questions the "distribution of attention" in order to further this critique.

3.1 ANTHROBSCENE: ENVIRONMENTALISM AND SEMIOCAPITALISM

One of the problems that the environmental movement incessantly poses for itself is the problem of representation: the cultural logic of environmentalism increasingly puts its faith in, or gives primacy to, an activism concerned with "consciousness" or "awareness" raising. Rob Nixon's formulation of "slow violence" incarnates one of the more complex and paradigmatic versions of this logic.

Nixon begins the introduction of his analysis of slow-violence with the frighteningly sterile poison-redistribution plan proposed by the World Bank. The World Bank's proposal to redistribute waste to poor countries was not scandalous by any means. It was an efficient form of planetary management that would shift the problem outside of the terrain of concern of rich-nation enviromentalists and also prove an economic benefit to the United States and Europe: when "Lawrence Summers, then president of the World Bank, advocated that the bank develop a scheme to export rich nation garbage, toxic waste, and heavily polluting industries to Africa, he did so in the *calm voice of global managerial reasoning*."[305] Nixon hypothesises that if the proposal suggested the use of weapons of mass destruction, it would have been immediately targeted as a violent proposition. However, given that is was carried out in the sanitized logic of economic prudence and managerial rationality, the poison-redistribution plan made sense (notwithstanding the environmental racism of the "Empire") because "countries in Africa are vastly under polluted."[306]

Nixon, therefore, argues that we widen the radius of what constitutes as violence in order to include within its scope the dark rhizomatic capillaries of a violence slow to unravel, one that sprawls over inhuman temporal dimensions and is difficult to trace: "[c]limate change, the thawing cryosphere, toxic drift, biomagnification, deforestation, the radioactive aftermaths of wars, acidifying oceans, and a host of other slowly unfolding environmental catastrophes."[307] Violence is "customarily conceived as an event of action that is immediate in time, explosive and spectacular

[305] Nixon, *Slow Violence*, 1.
[306] ibid., 1.
[307] ibid., 2.

in space, and as erupting into instant sensational visibility."[308] Slow violence, on the other hand, is antithetical to the spectacle and the pornographics of the instantaneous. *It is spectacle deficient*. Slow violence is "incremental and accretive," a "violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all."[309] The temporal dimension of slow violence, however, due to its non-evental dispersal and the belated registration of its effects, poses a major representational challenge:

> how can we convert into image and narrative the disasters that are slow moving and long in the making, disasters that are anonymous and that star nobody, disasters that are attritional and of indifferent interest to the sensation-driven technologies of our image-world? How can we turn the long emergencies of slow violence into stories dramatic enough to rouse public sentiment and warrant political intervention, these emergencies whose repercussions have given rise to some of the most critical challenges of our time?[310]

This representational problem is exacerbated in an age where "media venerate the spectacular" and "public policy is shaped primarily around perceived immediate need."[311]

Nixon follows Edward Said's argument that geographical struggles are never just armed and militaristic but also symbolic and dramaturgical. This struggle is only exacerbated in a "fast capitalism" that gives birth to vast structurations of forgetting and amnesia. As Jonathan Crary argues, the "acceleration of novelty production is a disabling of collective memory, and it means that the evaporation of historical knowledge" is no longer propagandistic or ideological but happens spontaneously from "fantasmatic construction of the present" emanating from communication and consumptive patterns.[312] Part of the process of real subsumption is not to simply produce "new subjectivities" (i.e. cognitariat) and "new means of production" (i.e. rhizomatic digital networks) but also to implement a new "transcendental aesthetic" that manipulates *time* (i.e. 24/7 temporality, an insomniac temporality that privileges the continuous functioning of markets and information networks that exceed segmented clock time and calendars) and *space* (i.e. corporate, generic "non-places"—Starbucks cafes, hospitals, airports, malls, website pages, offices, etc.). Our memories are nourished on memes, video-games and cartoons, on social

[308] ibid., 2.
[309] ibid., 2.
[310] ibid., 3.
[311] ibid., 3.
[312] Crary, *24/7*, 45.

media posts, Netflix and commodity artefacts. As Deleuze and Guattari write in *Anti-Oedipus* in relation to the capitalist socius, "[m]emory has become a bad thing."[313]

It is here we can talk about the materialistic "geo-unconscious" or, more specifically, a "geo-symptom" specific to anthropogenic global warming and slow violence: *the heat of the past comes back to haunt us.* The past is never quite past: for "if the past of slow violence is never past, so too the post is never fully post: industrial particulates and effluents live on in the environmental elements we inhabit" as well as in "our bodies, which epidemiologically and ecologically are never our simple contemporaries."[314] Nixon's activism, then, is largely composed of generating dramaturgical crystals of time (imagistic apparatuses) that can arrest, capture and freeze the belated effects of slow violence into a digestible item available for public attention and collective remembrance: to "intervene representationally entails devising iconic symbols that embody amorphous calamities as well as narrative forms that infuse those symbols with dramatic urgency."[315]

At times, however, there seems to be an implicit form of idealism within Nixon's project: it is as if inattention was a productive force in its own right and politics is therefore reduced to (or primarily concerned with) the creation of images and mythopoetic narratives by middle-class academics, scholars and activists in the global North (i.e. immaterial labour). This is one of the problems of the "Netflixication of ecology."

Representational eco-politics fails to take into account what Andrew Kalaidjian calls the "spectacular Anthropocene"—that is, while "environmental efforts can reach a larger audience than ever before, they are not immune to the paralyzing effects of spectacle."[316] What Nixon forecloses, for instance, in his dyadic analysis of representation between slow violence and quick spectacle—that is, the challenge of suturing the radical disjunction between the slow, belated environmental devastation occurring at the level of *planetary biophysics* and the immediate, cinematic whirlpool of signs occurring at the level of *neural circuitry*—is the question of how to compete with the spectacle that does not conform to its disintegrating logic, speed and auto-negating movement. To bring spectral objects of slow violence into the domain of the spectacle does not necessary help the overarching cause. Or, what Nixon misses, is the obsession with "representationality," "consciousness" and "awareness-raising" that is already at the heart of populist ecological

[313] Deleuze and Guattari, *Anti-Oedipus*, 251.
[314] Nixon, *Slow Violence*, 8.
[315] ibid., 10.
[316] Kalaidjian, "The Spectacular Anthropocene," 20.

movements, an obsession that is symptomatic of both a lack of organization on the ground and semiocapitalism's regime of "hyper-expression" and demand to convert everything into an image, sign, or unit of information.

Irmgard Emmelhainz calls this representational overexposure of the Anthropocene in the epoch of semiocapitalism "exhaustive visualization":

> the Anthropocene era implies not a new image of the world, but the transformation of the world into images. Humanity's alteration to the biophysical systems of earth is parallel to the rapid modifications of the receptive fields of the human visual cortex announced by cubism and experimental film. This alteration is also accompanied by the unprecedented explosion in the circulation of visibilities, which are actually making the outcome of these alterations opaque.[317]

What Nixon fails to take into account (or, rather, underestimates), given his emphasis on representation, is precisely the spectacle's auto-negating procedure of overexposure: or, what is also cynically known as "ruin-porn," a phenomenon that is also gaining traction and theoretical interest in the heterodoxical niches of eco-studies, a phenomenon that questions how typically white, typically middle-class artists, photographers and cinematographers make money and gain renown by showcasing disaster via an aesthetic medium.

Is not this the case of Edward Burtynsky's *Anthropocene: The Human Epoch* (2018)? The Anthropocene becomes an object of spectacularism, "surreal images" and "stunning cinematography," that functions in the same vein as Romantic sublimity (crisis consumed from a distance) rather than an environmental crisis *per se*. The Anthropocene becomes an orbital object of pure groundlessness detached from its referent. We can give the Anthrobscene a more determinate definition: the global South provides the catastrophic material and the global North provides the camera. Thus, the Anthrobscene converts the Anthropocene into a form of "ruin-porn." Exorcized of all of its sexual features, "ruin porn" operates through a bivalent logic of voyeuristic distance and imagistic immersion, "where the aesthetic pleasure or horror or curiosity depends largely on the ability of the viewer to disentangle himself from the ruination he is seeing in front of him."[318] The image of ruination enables one to indulge in a conservative relation of engagement with decay, ruination and exploitation. The problem with the Anthrobscene is that it registers the environmental crisis as a crisis immanent to the gaze: the cornucopia of saturated

[317] Emmelhainz, "Conditions of Visuality Under the Anthropocene and Images of the Anthropocene to Come," 5.
[318] Thill, *Waste*, 75.

images that expose the decimation of the planetary system "constitute something like a production sublime, as toxic, high-volume, post-production, and post-consumer waste is repackaged and framed at a scale and in a manner that minimizes waste's catastrophic causes and effects," foregrounding instead "the things in it that are beautiful" like all of Burtynsky's documentaries and exhibitions.[319]

Emmelhainz argues, moreover, that this spectacular groundlessness emerges from semiocapitalism's incentive to turn things into signs and images, giving rise to a "tautological form of vision": with the omnipresent "use of photography and digital imaging, all signs begin to lead to other signs, prompted by the desire to see and to know, to document and archive experiences," which leads to the "fantasy that everything is or can be made visible," a fantasy that "coexists with the increasing automation of cognition, which, following Franco Berardi, is the basic condition of semiocapital (the valorization and accumulation of signs as economic assets)."[320]

Obscenity is predicated on a paradigm of forced transparency and immersion within the techno-linguistic automatisms of network culture: obscenity "begins when there is no more spectacle, no more stage, no more theatre, no more illusion, when everything becomes immediately transparent, visible, exposed in the raw and inexorable light of information and communication."[321] It marks the process whereby all forms of social life are "abolished into one dimension, the dimension of communication" and "information."[322] Although the "epoch of networks" transcends and moves past the "society of the spectacle," it does retain a very important element: the "spectacle is not a collection of images; rather, it is a social relationship between people that is mediated by images."[323] What is pornographic about obscenity is that it forces everything into a regime of exaggerated visibility in order to produce the effect of fascination, libidinal excitement and aesthetic pleasure. However, "obscenity and transparency progress ineluctably, because they no longer partake in the order of desire but in the order of the frenzy of the image" and this "solicitation of and voraciousness for images is increasing at an excessive rate. *Images have become our true sex object, the object of our desire*."[324] We do not desire the sexual act that is simulated in

[319] ibid., 82-83.
[320] ibid., 7.
[321] ibid., 26.
[322] ibid., 28.
[323] Debord, *The Society of the Spectacle*, 12.
[324] Baudrillard, *The Ecstasy of Communication*, 35.

pornography. What pornography reveals is the more fundamental desire to see itself, to be immersed in the luminescent exorbitance of the image.

The Anthrobscene makes environmental slow violence opaque *not through lack of representation but through overexposure.* Simulacral objects and images are not faithful representations of reality, photogenic devices of illumination or loci of manifestation that hold open a space for entities to appear within the spectral density of being. What is interesting about simulacral-objects and images is the power they have to devalorize, to make things opaque, irrelevant or derelict in their wake. *Simulacra produce spectral umbra and envelopes of boredom*: whatever objects or activities resist the stimulatory regime of telematic participation "tend to deteriorate in esteem and desirability," real-life activities "that do not have an online correlate begin to atrophy, or cease to be relevant."[325] What emerges is an "insurmountable asymmetry" between the online and offline, the ubiquity of the screen and the primitivism of the local, immediate and public: due to "the infinity of content accessible 24/7, there will always be something online more informative, surprising, funny, diverting, impressive than anything in one's immediate actual circumstances."[326] The condition of visibility (valorization) and invisibility (devalorization) rests on semiocapitalism's injunction toward "exhaustive visualization" or "obscenity"—a process that culminates in a formal principle of "pornography" (i.e. overexposure, more visible than visible). "Under the conditions of semiocapitalism, images and signs acquire value and/or power by means of being seen, largely through 'likes' and 'retweets.'"[327]

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[325] Crary, *24/7*, 59. Here, boredom is not an unangelic personological malaise. It is not a subjective feeling. It is not a "affect," "mood" or "emotion" as such. Neither is it the cruel dilation of a temporal stretching that haunted irritable vacuoles of empty time in the 19th Century or post-war suburban residents of the 20th Century. This is not to say that it is exclusive to the 21st Century. We view boredom from the vantage points of the "object" and an "aesthetics of deprivation" (that is, what is inscribed within the socius as "boring" in relation to legitimated "objects of pleasure," "desire," "value.") The "boring" does not automatically require an actively "bored subject." We have to move from a "subject-oriented" boredom to a "object-oriented" boredom that gives primacy to a desiring hermeneutic that structures how desire is cut up, organized and distributed across a constellation of social objects. Boredom emerges from an *asymmetrical relation* to the privileged site, ideal or position of desire. Boredomatic objects are the collectively coded excrement repelled by desiring-subjects whose epistemic-prisms filter and understand life primarily as a problem of "entertainment," "pleasure" and the maximization of "enjoyment" (Kierkegaard). As Bruce O' Neill puts it in his sobering materialist analysis in *The Space of Boredom*, boredom is not the negative revelation of a privileged philosophical subjectivity who eloquently renders life meaningless but a "collectively shared evaluation" of phenomena that are considered "socially devalued" or "displaced from meaning places" (16, 17).

[326] ibid., 59.

[327] ibid., 7.

This brings us back to the conundrum of representational eco-politics and thinking through a "transcendental geology" (i.e. the earth as a condition of possibility for thought): as "digital culture becomes faster, higher bandwidth, and more image-based, it also become more costly and destructive—both literally and figuratively" because it "requires more input and energy, and affirms the supremacy of the image—the visual representation of data—as the representation of the world."[328] Because the hyperobject of anthropogenic global warming cannot be cognized in a subjective or intersubjective mind, and thus only be registered at the level of the network, "made sensible through a vast distributed systems of sensors, exabytes of data and computation, performed in time as well as space," leads to what can only be called the *problem of geological reflexivity*.[329] Benjamin Bratton encapsulates this problem and the general paradoxes of a transcendental geology perfectly in the anecdote of HP research scientist Stanley Williams who worked with a team of computer scientists asked by the US Department of Energy to "propose an architecture for a computer that would be capable of a high fidelity predicative simulation of the entire planetary climate, and of monitoring and simulating the entire planetary climate in real time."[330] The problem of geological reflexivity, the immanent contradictions between computation and geological materialism, manifests explicitly in Williams' anticlimactic conclusion of the group's research as Bratton recites it:

> based on current technology, the necessary specifications would mean that the computer would not only be roughly the size of Paris, but it would consume so much energy that it would be the single most significant anthropogenic climate event that it itself would be modeling! Short of fundamental breakthroughs, his anecdote underscores the paradoxical recursivity that undergirds the demand for global ecological omniscience.[331]

This is the obscenity of the Anthrobscene: in an effort to achieve global ecological omnipresence through political dramaturgy and global ecological omniscience through techno-scientific computation, everything becomes a matter of "exhaustive visualization" (simulacral image-objects) and "exhaustive informationalization" (epistemological sign-objects). Are these practices a priori evil? No, of course not. But they are entangled in deep rooted contradictions—that is, *constitutive tensions* inherent to representation and technogenesis as such, tensions that are only really beginning to be questioned.

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[328] Bridle, *New Dark Age*, 64.
[329] ibid., 73.
[330] Bratton, *The Stack*, 102.
[331] ibid., 102.

3.2 ATTENTION: COMPETING WITH THE DORITOS-NETFLIX ASSEMBLAGE

Attention is not the result of individual choices.[332] It is structured and spellbound by "collective enthralments," enthralments that are "inextricably architectural and magnetic, and which are induced by media apparatuses circulating certain forms (rather than others) among and within us."[333] Attention is constrained to follow paths and forms that are opened up to us on the basis of certain images and discourses circulating within the mediasphere. Yves Citton gives the example of Islamophobic enthralments that resonate throughout the mediasphere, drawing out certain saliences within our environment by drawing our attention to them (a woman who is wearing a veil) despite our common sense, liberal education or ideological position. Collective enthralments organize our perceptual behaviour around certain "attractors" that condense, bind and capture our attention. The formal principle of collective enthralment states that "human attention tends to fall on objects whose form it recognizes, under the spellbinding influence of the direction taken by others."[334]

Citton argues that collective attention allows us to foreground the plurality of dynamics from which our common enthralment results. "Attention carries a power of *collection* which ensures very complex modes of interaction between social groups and the individuals emanating from them."[335] The etymology of *colligere* suggests the meaning of "gathering together": collection—uniting objects within an environment through a particular criterion. This form of gathering implies observation, choosing, filtering and analysis. The primary task of attention is to "select from among the phenomena surrounding us, those that are significant for our survival and the satisfaction of our desires."[336] We are enveloped not only within a collective sphere of attention but further parcelized within a particular "libidinal filter bubble" or "sensory filters" that selects from

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[332] Nor is it reducible to the glittering hypnosis of the "screen," "media" or "network." It is an existential form of concentrational generosity that enables us to become immersed in an activity. As Christian Marazzi reminds us in *Capital and Language*, the "destruction of stable employment and regular wages and salaries contributed to aggravating the attention deficit of worker-consumers, forcing them to dedicate more time looking for work than to consuming goods and services" (68). Precarity is a new form of neoliberal governmentality that forces subjects to pay more attention to existential and economic survival through the employment relation or meta-desire of money than it does to extra-subjective concerns—however necessary, pressing or urgent—such as the dilapidation of community or planetary collapse. Precarity spectralizes the collective in favour of the transcendent aspiration for individual security.

[333] Citton, *The Ecology of Attention*, 31.

[334] ibid., 33.

[335] ibid., 33-34

[336] ibid., 34.

our environment objects, activities and phenomena that (should) attract or preoccupy us. The collection describes *me* in a collective despite the fact that I might think it concerns only me. Thus, the principle of selective collectivization: "*attention simultaneously ensures a certain adaptation of our behavior to our environment (by selecting in it what interests us) and a certain collective composition of individual desires (by spontaneously aligning our sensibilities and our preferences with those of others)*."[337] Our attention aligns with the attention of others. But, as we know from Frédéric Lordon, this alignment is primarily the function of domination and the "master-desire" delimiting the sphere our of desire to work, commodities, money and social prestige.[338]

Our attention tends to fall on familiar objects, content or attractors (i.e. it is transindividual and collection). But the content that it lands on is not neutral since we are bombarded by imagistic demands, nervous incentives and audio-visual content engineered by online streaming sites such as iTunes, Netflix, YouTube and the like. The flow of content is irreversibly enmeshed with and irrigated by the flow of capital because our attention has the ability to be converted into capital or monetized (i.e. it is a form of "immaterial labour"). This, however, increasingly makes our attentional flux an object of manipulation and decreases its existential availability at large. Phenomenology always produces a spectral non-phenomenology. What appears is simultaneously what spectralizes; in other words, the logic and process of appearing contains within it a logic and process of disappearing.[339] Since neither our collective nor individual attention can be everywhere at once, it is capital (specifically platform capitalism) that (in the last instance) determines the orientation of our attentional powers. The "principle of competition" that Citton highlights follows both from the non-infinite quantity of collective attention available and the driving force of capital to produce and extract surplus value. Competition is the chief actor in "attention deficit disorders":

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[337] ibid., 34.

[338] See Lordon's *Willing Slaves of Capital: Marx and Spinoza on Desire*.

[339] What is interesting about Heidegger—and also Walter Benjamin for that matter—is the motif or thought-image of "fog" that runs throughout their discussions of boredom. "Fog" is not reducible to a climatological phenomenon. It raises itself to a non-thematized "concept" that allows us to explore a spectral "phenomenology": "boredom draws back and forth like a silent fog in the abysses of Dasein." (*FCM*, 78). Spectral does not refer to ghosts but the ambivalent flickering between "being" and "non-being." It flirts with what can be called a spectral "non-phenomenology"—a phenomenology that deals with what is pushed out of sight or outside of the circle of visibility by "appearance," "visibility" or "sight" itself. With Benjamin (à la Baudelaire), likewise, we get the proliferation of half-concepts that are spliced with banal items, particles, phenomenon and apparatuses: "a world of mist," a "cloud-world," "fog," "dust," "curtains of rain," "umbrellas" and the notorious "gray fabric" passage from *The Arcades Project*.

"*the amount of focused attention allocated to a certain phenomenon reduces the amount of focused attention available for considering other phenomena*." [340]

Kalaidjian will even go so far as to say that the "Anthropocene is the physical manifestation of the spectacle's aspiration to cover the entire globe, as well as the planetary fulfillment of the narcissism that drives endless speculation and reflection on the nature of humanity."[341] Is the Anthropocene a problem or a celebrity? The question that Kalaidjian raises is essentially the Baudrillardian question of is it possible for the globe to disappear under its own image—its own hyper-simulation? Bridle, of course, will say yes: the complex crisis of geo-material reproduction competes with the image of this very crisis. This is the crisis of the Anthrobscene.

The Anthrobscene converges with the economy of attention at a very precise point: both are grounded in a Berkelean-esque ontology of visibility: it "is the accumulation of gazes and attention that constitutes value."[342] What appears is what is. What appears with more intensity, the more reality it has. Attention is a mode of valorization: the "simple fact of looking at an object represents a labour which increases the value of that object."[343] It constantly reinforces itself in a spiral of attraction: attention accumulates more attention (the logic of celebrity, Instagram and YouTube). Every issue, person and brand have to make themselves attractive, have to decorate themselves in the spectacularism of the commodity lest they fall into the abyss of irrelevance.[344] To exist in platform capitalism is to appear. Competition and attentional capitalism put pressure on socio-economic agents to lift themselves out of unspectacular obscurity and into the draconic brightness of mediaspherical notoriety to compete for attention. The principle of competition and the ontology of visibility as economic imperative gives rise to what can be called a "grey ecology" (not the one that Paul Virilio develops, which is related to the pollution generated by the contraction of spatio-temporal dimensions by the instantaneousness of telecommunications networks).

Grey ecology is a term that designates not so much the failure of ecological issues to become "spectacular" mediatic objects of public concern but more so their inability to compete with other

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[340] Citton, *The Ecology of Attention*, 32.
[341] Kalaidjian, "The Spectacular Anthropocene," 20.
[342] Citton, *The Ecology of Attention*, 66.
[343] ibid., 47.
[344] And all of this work making the Anthropocene "visible" (via documentaries, images, scientific reports, this thesis) is itself exhausting and reduces the attention flux away from other forms of activism that may or may not engender more concrete results. This is just to ask how much visibility is enough visibility?

"spectacular" mediatic objects of public concern (Kim Kardashian, neo-conservative's obsession with terrorism, economic growth, a new book on Deleuze, a friend's vacation pictures on Instagram). This attentional "scarcity" aggravated by competition, subsequently, is even more fractured by the differential virus of customization—that is, "designer consciousness." Given the neo-baroque surplus of content social media and platforms offer users, "distraction" is no longer unidimensional but individually customized according to the microphysics of individual desires, impulses, swerves. The automosaic brawl of incoming stimuli competing for our attention have to be parcelled out to greater degrees. We have to develop robust and personological filtering systems. Simmel's "blasé attitude" integral to metropolitan subjectivity retains its formal structure of psycho-immunology, here, while becoming all the more complex in semiocapitalism and digital culture. We are not bombarded by stimuli unidirectionally but also increasingly construct, organize and choregraph this supersaturating influx—hostages of our own collage of micro-interests, like Benjamin's proto-digital "warm grey fabric" that sheaths the subject's head and is lined with a psychedelic and baroque interior.[345] Spectral objects of boredom on the "outside." Lustrous objects of interest on the "inside."

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[345] Semiocapitalist culture attempts to produce a post-bored subject—generating a hypertrophy of digital micro-pleasures that continually bombard the user and make it difficult for the subject to soak in the transcendence of an "experience," a non-communicative gap, a phosphorescent lingering.

Fisher distills the paradoxical aspect of this boredom without a subject that the baroque stimulation of cyberspace in semiocapitalism breeds in a neat formulation: no one is bored but everything is boring. He argues that "if the contemporary form of capitalism has extirpated boredom, it has not vanquished the boring." ("No One is Bored, Everything is Boring"). On the contrary, we "endlessly move among the boring" because "our nervous systems are so overstimulated that we never have the luxury of feeling bored." (ibid.) This is a common analysis. It updates the Freudian-Simmelian analysis of the metropolitan forms of subjectivity that emerged as a result of being immersed in the continuous electrocution of the crowd. The modernization of subjectivity necessitated by the "money economy" required the intensification of rationality—hence, "ego-defense" or the blunting reflex of the "blasé attitude"—and a minimization of emotional response that would enable subjects to "create a protective organ" shielding them from "the profound disruption with which the fluctuations and discontinuities of the external milieu" threaten internal coherence ("The Metropolis and Mental Life," 12). This "rational intensification" is not an amplification of our epistemic faculties but rather a technique for pragmatic survival, denial and operative functionality. Rationality means conservatism. We act with reserve and muffle our impulses and agitations. Modern life requires a subjectivity that is more *protective* than it is *receptive*, that is engaged in a perennial mode of deflection, aversion and distantiation in order to ensure the smooth functioning of social life. This psycho-immunological callousness, for Simmel, moreover, internalizes the indifference that is paradigmatic of exchange value: the "essence of the blasé attitude is an indifference toward the distinction between things" such that "the meaning and the value of the distinctions between things...are experienced as meaningless." As Elizabeth Goodstein elaborates, "the blasé subject has adapted to the objectification of the lifeworld by becoming object-like" (*Experience without Qualities*, 273).

Fisher's boredom is slightly more complex: it retains the psycho-immunological shell that achromatizes the exterior world *but through* the glittery saturation of the interior with hyper-personalized pixels of entertainment—again, establishing a diagonal relation of asymmetry between the micro-world of the transfixed

Consciousness is not homogenous or hypersynchronized in an unambiguous manner. The social swarm does not merely standardize experience, attention and behavior so that it is increasingly compatible with patterns of consumption and the process of capitalistic valorization, so that we are all doing the same things in an automated way. To generate a standard experience is to generate the possibility of a standard platform of revolt, discontent and a "unified" common condition. We have transcended the Fordist era of television and mass consumption, where you can have any color of the Model T automobile as long as it is black. The axioms of enjoyment that capital deploys in the era of semiocapitalism are much more sophisticated and differential. Pettman, in contrast to Bernard Stiegler's notion of industrial model of hypersynchronization, argues that social media functions instead through "hypermodulation"—that is, "deliberate dissonance," "productive delay" or "staggered distraction," mechanisms of fragmentation and anti-solidarity that disable the possibility of "*feeling the same way* as other potential allies and affines" and constrain us to the atomic orbs of our own customized distractions.[346] One minute we are absorbed in a penetrating article on climate change. Another minute we are absorbed in the hilarious hijinks of a cat video.

Crary, too, identifies the same deficit in Stiegler's concept. To homogenize consciousness would be to get too close to orchestrating the prerequisites needed for "class consciousness." Rather, attention, consciousness, desire and concern are customized to suture one's attentional powers to the limited zone of one's private island of activity

> against his idea of the industrial homogenization of consciousness and its flows, one can counterpose the parcellization and fragmentation of shared zones of experience into fabricated microworlds of affects and symbols. The unfathomable amount of accessible information can be deployed and arranged in the service of anything, personal or political, however aberrant or conventional. Through the unlimited possibilities of filtering and customization, individuals in close physical proximity can inhabit incommensurable and non-communicating universes.[347]

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subject christened with digital dopamine and a pallidly disinvested macro-world of co-isolated sociality. The insular forms of cultural entertainment generated by the mediasphere are "experienced not as something which could have impacts upon public space, but as a retreat into private 'Oedlpod' consumer bliss, a walling up against the social" (*Capitalist Realism*, 24). This boredom is not a symptom of civilizational repression (Freud). Nor is it simply a problem of "demotivation" or a symptom of a "motivational deficit" that plagues secular liberal democracies (Critchley)—as if the revolutionary in each of us was just simply sleeping and needed to be roused. The "entertainment-control circuits of hypermediated consumer culture" function by "addicting its users" and substituting their deteriorating wages through the artificial stimulations of credit (*Capitalist Realism*, 25).

[346] Pettman, *Infinite Distraction*, 30, 29.

[347] Crary, *24/7*, 53-54.

The inscription made on the socius by the axiomatization of capital allocates to each person a little island or monad of activity (i.e. a social function, a job, a problem) that they are responsible for, can enjoy and cultivate. *The division of labour is coupled with the division of desire.* Consciousness and one's sphere of activity become highly fragmented, self-tailored and specialized—becoming, in the process, more and more "post-political."

This circulation of visibilities (i.e. competitive attentiveness and hypermodulation) within the global North obscures the brutal fact of our indifference to the material effects of the Anthropocene as such. It is another image and article to click away (for now). This is not a cynical epiphany or indulgence. It is a symptom of semiocapitalism and a larger blockage to the political sphere—or, to be more abstract, the *consumer-citizens' structural position within the problematic topology* of the Anthropocene at large. It is not a problem of plastic bags at the grocery store (i.e. individual responsibility and ethical preference). We often forget or are oblivious to the fact that "97 percent of waste is not the municipal solid waste that all of us create and are familiar with, but *industrial* waste."[348] The problem is that the problem of the Anthropocene is colonized by an onslaught of specialists, experts and technocrats. In short, the problem is left to the decision making of institutional or market mechanisms and multi-national corporations—that is to say, "market environmentalism" or the "ecology of the upper-classes."

As Erik Swyngedouw has it, post-political eco-populism only contributes to and reifies this ecology of the upper-classes because it renders climate change as a "techno-managerial issue" rather than calling into being a political subject capable of executing large socio-ecological transformation—"populist tactics do not identify a privileged subject of change" that would articulate generative social conflicts inherent in the capitalist system and instead "invoke a common condition or predicament, the need for common humanity-wide action, mutual collaboration and cooperation."[349] Climate change becomes choregraphed around an ecology of fear and universalizing tendencies in rhetoric that speak of a de-politicized "common humanity"—like in the *New York Times* or *The Economist*—homogenously contributing emissions. "Post-politics is marked by the predominance of a managerial logic in all aspects of life, the reduction of the political to administration where decision-making is increasingly considered to be a question of expert

[348] Thill, *Waste*, 77.
[349] Swyngedouw, "Apocalypse Forever?: Post-Political Populism and the Spectre of Climate Change," 224, 223.

knowledge and not of political position."[350] Carbon dioxide, then, is fetishized as an abstract enemy that is "always vague, ambiguous, socially empty and vacuous."[351] Climate problems are therefore not the result of "unevenly distributed power relations" and contradictions integral to capitalism but "are blamed on an outsider" that brings disequilibrium into the market system.[352]

As technocratic solutions give way to de-politicization, de-politicization gives way to indifference. As Peter Mair has shown in *Ruling the Void*, exploring the relationship between indifference and the political sphere, in a neoliberal world that includes figures such as Tony Blair and Donald Trump (figures who paradigmatically express anti-political sentiments and the redundancy of democratic political decision making in the face of a widespread form of governmentality that seeks to run everything like a business), "politics" seems to be progressively "denigrated or devalued" and "indifference to politics" is "deepening further."[353] As Wolfgang Streeck points out in reference to Mair, the "analogy between the consumerization of political commitment and the new markets of hedonistic lifestyle capitalism, fed by individually customized products, is hard to overlook."[354]

The process of market immanentization that hollows out traditional party politics and democratic party government in general, leading to large waves of "depoliticization," as Streeck explains, involves the dual process of "individualization" and "globalization." Individualization "refers to the erosion of the cohesive social environments that helped structure the original growth of mass parties—the world of trade unions, clubs, churches, business associations, farming groups, and so on—as well as the fragmentation of collective identities," which includes Fordist era mass politics and the industrial working class.[355] The consumerization of political commitment renders social bonds as a matter of infinite recombinability and disposability, uniform with the logic of the commodity—that is,

> a matter of taste and choice rather than of obligation, making communities appear as voluntary associations from which one can resign if they require excessive self-denial, rather than as 'communities of fate' with which one either rises or goes under. The new social media that have fast become almost indispensable tools of human sociability enable people to connect and associate with like-minded others on the most esoteric 'subjective' matters.

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[350] ibid., 225.
[351] ibid., 223.
[352] ibid., 222.
[353] Mair, *Ruling the Void*, 3.
[354] Streeck, "The Politics of Exit," https://newleftreview.org/issues/II88/articles/wolfgang-streeck-the-politics-of-exit
[355] ibid.

> As cyberspace trumps geography, the connection, elementary for traditional political mobilization, between shared interests and personal relations arising from physical vicinity is broken. One consequence is that social control among 'network members' is minimized; dropping out is easy, especially when people use pseudonyms—another facet of the new voluntarism of social relationships. Browsing the boundless supply of causes, tastes and lifestyles made available by the internet, one can freely decide to 'like' whatever one wishes; in contrast to old-school political parties, there is no pressure for ideological consistency or for adherence to a common programme.[356]

Likewise, "globalization" signals "the declining ability of national governments to shape autonomous policies" due to the fact that nation-states' economic and decision-making power has been thoroughly undermined and handed over to "'non-majoritarian' (i.e. elite) institutions, like central banks and regulatory agencies, which are insulated from 'majoritarian' redistributive pressures."[357] The political sphere is abandoned to experts and technocratic institutions. The citizen-consumer is left to withdraw into private life or what Fisher calls the "air-conditioned totalitarianism of contemporary securo-culture," where "middle-class security" forms "the horizon of all aspiration"—that is, the nice house, the nice family and the nice career that is projected as the bourgeoise ideal of modern life.[358] This artificial and prosthetic dream of limitless air-conditioning, however, is quickly becoming obsolete.

The Anthrobscene marks a moment in capitalistic development where the capitalist socius attempts to deliriously fashion itself according to the ontology of cyberspace as a purely virtual entity that can thrive amid environmental catastrophe, the decay of civil society, the collapse of institutions necessary for social protection (e.g. heath care, public education, social services)—that is, detach itself from any reliance on material relations of reproduction or support. In the epoch of the "omnipresent screen," in relation to Crary's critique of the fraudulent identification subjects make with insubstantial electronic surrogates, thinking techno-salvational protheses offer exemption from mass biocide, Andreas Malm writes that the more one withdraws into the cocoon of "augmented reality," "the more one detaches from things taking place in nature."[359] This is the most sophisticated form of climate denialism for Malm. In other words, permanent connectivity, the post-modern condition and semiocapitalism are the "final capitalist mirage of post-history" as the warming world gnaws at the iridescent bubble of economic hyperrealism.[360] Global warming,

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[356] ibid.
[357] ibid.
[358] Fisher, "What are the Politics of Boredom?," 59, 61.
[359] Malm, *The Progress of this Storm*, 12.
[360] Crary, *24/7*, 9.

with "its dependence on the past and future directionality, its temporal logic contradicts hyper-spatial postmodernity head on."[361] To conclude with Crary's admonition, we need to fracture this "pervasive illusion that, as more of the earth's biosphere is annihilated or irreparably damaged, human beings can magically disassociate themselves from it and transfer their interdependencies to the mecanosphere of global capitalism."[362]

[361] Malm, *The Progress of this Storm*, 15.
[362] Crary, *24/7*, 100.

CONCLUSION: TOWARD AN ECOLOGICAL AUTONOMISM

> *The warming condition is hyper-human.... No one would ask CO2 molecules to come down from the heavens or demand that oil platforms scrap themselves and pay their victims—not even Timothy Morton, for he would not find a way to communicate with the oil.*
>
> —Andreas Malm, *The Progress of this Storm*

> *It is therefore time to end the pretense that ecology is, by itself, sufficient: the ecological movement is not an end in itself, but a stage in the larger struggle. It can throw up obstacles to capitalist development and force a number of changes. But when, after exhausting every means of coercion and deceit, capitalism begins to work its way out of the ecological impasse, it will assimilate ecological necessities as technical constraints, and adapt the conditions of exploitation to them.*
>
> —André Gorz, *Ecology as Politics*

> *At some level, all life rebels against the value/monoculture nexus of modernity, from farm to factory....Hence, the struggle over the relation between humans and the rest of nature is necessarily a class struggle. (But not just a class struggle).*
>
> —Jason W. Moore, *Capitalism in the Web of Life*

Because Andreas Malm has already sufficiently—but by no means exhaustively or completely—mapped out the compatibilism and incompatibilism between an Autonomist theory of class struggle and an eco-Marxist theory of the earth in *The Progress of this Storm*,[363] it will suffice to regurgitate, inflect and build off some of his theses here, briefly, as they point toward new directions future research could take in thinking Autonomist thought through the prism of the Anthropocene (and *vice versa*). It is only through the "disjunctions," "contradictions" and "paradoxes" that are generated in this encounter between Autonomism and the Anthropocene that one can get a precise account of how semiocapitalism operates at the planetary scale.

(1) *The Anthropocene does not exist*. It is analytically defective to attribute climate change to the human species in general—as if the causes and origins of the fossil economy began with Prometheus stealing fire. If climate change is apocalyptic, "it is not universal, but uneven and combined."[364] The capitalist countries of the global North, which compose less than 20% of the

[363] See, specifically, chapter 7: "On Unruly Nature: An Experiment in Ecological Autonomism."
[364] Malm and Hornborg, "The Geology of Mankind? A Critique of the Anthropocene Narrative," 66-67.

global population, as of 2008 were "responsible for 72.7% of the CO2 emitted since 1850" and in "the early 21st century, the poorest 45% of the human population accounted for 7% of emissions, while the richest 7% produced 50%."[365] It is more appropriate, then, to talk about the Capitalocene, "market environmentalism" or the "ecology of the upper-classes." However, what one has to keep in mind is that climate change is not the subjective decision of the "ruling elite" *per se*. The fossil economy is the result of *market fetishism* and *a-subjective investment decisions miraculized by capital flows*:[366] the "succession of energy technologies following steam—electricity, the internal combustion engine, the petroleum complex: cars, tankers, aviation—have all been introduced through *investment decisions…but rarely through democratic deliberation*."[367] Financial signs (e.g. valuation metrics that measure a company's performance, gross margin ratios, carbon pricing—that is, the right to pay to pollute), monetary simulacra (e.g. profit, revenue, expenses) and economic indicators (e.g. gross domestic product) are just as much part of the *Anthrobscene* as imagistic and epistemological ones because not only do they "virtualize the real" but also automate decision making according to price metrics, algorithms and a fiscal rationality that treats nature as an externality (i.e. in terms of price and costs). Insofar as the Anthropocene signifies that the human species is a "unified geological actor" (à la Chakrabarty and Crutzen), it does not exist and gives way to mystification and the flaccid demands of post-political populism.

(2) *The hegemonic tendency of immaterial labour will not unfold as prophesied.* Machines (i.e. techno-capitalism, utopian impulses toward full automation and the general intellect) are parasitic on substrata of cheap energy and ecological surpluses. It cannot be repeated enough: the cyborg is predicated on the slave. The "affluence of high-tech modernity cannot possibly be universalized—become an asset of the species—because it is predicated on a global division of labour that is geared precisely to abysmal price and wage differences between populations" as well as conditioned by factors such as "capital accumulation, privileged resource consumption, and the

[365] ibid., 64.

[366] This is why there has to be "incentives" in the first place. *The market is more natural than nature*. Market logic and capital flows have to be directed through profit steering mechanisms but never directly challenged at their core. Ecological crises, then, are not an incentive in and of themselves. Capital itself functions as a "quasi-cause" that obscures "high-order" (i.e. "ethical," "political," "democratic") decision making: following Marx's theory of commodity fetishism, whereby humans attribute autonomous power to inanimate things or socially produced relations, Deleuze and Guattari assert in *Anti-Oedipus* that "[m]achines and agents cling so closely to capital that their very functioning appears to be miraculated by it. Everything seems objectively to be produced by capital as quasi-cause" (10-11).

[367] ibid., 64. My emphasis.

displacement of both work and environmental loads."[368] Geophilosophy forces us to read the *existential analytic of the cognitariat* (a figure surrounded by haloes of data, signs, desires and neuro-chemicals) through an *energetic analytic of the earth.* As Federici has argued, this has major ramifications for the technologistic notions of revolution proposed by Autonomists and Accelerations alike—where techno-scientific knowledge and an automated system reduce labour-time to zero. Even "solar," "aerial" or "eco-techno" communisms are not a priori off the hook: as Julia Adeney Thomas elucidates, the Anthropocene is not just about climate change or the fetishization of carbon dioxide because, in the case of Big Wind, the "production of the rare earths needed to meet China's demand for wine turbines up to 2050...will result in the release of 80 million cubic meters of wastewater," where radioactive waste material generated from rare earth extraction is dumped in toxic lakes near Baotou.[369] Techno-optimism in both its "green" and "red" forms has to questioned insofar as they carry out promethean tendencies at the scale and force as the capitalist mode of production does. As Marx writes at the end of the chapter on "Machinery and Large-Scale Industry" in *Capital*, capitalist production only "develops the techniques and degree of combination of the social process of production by simultaneously undermining the original source of all wealth—the soil and worker."[370]

(3) *The earth and labour are non-identical but share in a common project of autonomy and resistance*. The Autonomist thesis applies to the earth as well as to labour: nature too possesses an "ineradicable *autonomy* from capital" that does not restrict it to merely being a pliable object of appropriation.[371] This thesis has been affirmed by many thinkers: for instance, "unruly nature" (Malm), "nature as detour" (Neyrat) and the "superweed effect" (Moore). Nature possesses analogous forms of resistance and autonomy that thwart capitalist development and force it to restructure itself in the face of emergent barriers to accumulation. Moore labels these processes of resistance "negative-value" or the accumulation of limits. In other words, capital does not just exploit the "workers' antagonistic will-to-struggle as a motor of its own development" but also nature's antagonistic tendencies.[372] For Malm as for Moore, these non-human resistances are historical and not

[368] ibid., 64.
[369] Thomas, "Why the Anthropocene is not 'Climate Change'—and Why that Matters," https://climateandcapitalism.com/2019/01/31/why-the-anthropocene-is-not-climate-change-and-why-that-matters/
[370] Marx, *Capital: Volume 1*, 638.
[371] Malm, *The Progress of this Storm*, 197.
[372] Tronti, "The Strategy of Refusal," 29.

primarily ontological features of life (as in Negri). "Major blowbacks happen *in specific historical conjectures*, when the displaced and condensed contradictions come to the fore in explosive unity, for labour as for nature," but these two strata "follow their own rhythms, with no tendency to synchronicity."[373] One crucial dissimilarity between nature and labour for Malm, then, is that nature lacks revolutionary agential power in the strong sense: one "does not cheer on a superstorm as one does a strike combined with a sit-in."[374] This brings us to the next point.

(4) *Nature is not a revolutionary subject/force in and of itself*. If Hardt and Negri claim that the multitude is "many-colored, like Joseph's magical coat," an "inclusive concept" that transcends the ideo-typical figure of revolution (i.e. the white, male proletariat), they have to move beyond *techno-sociological reductionism*—where the multitude is only composed of heterogenous "figures of *social production*."[375] It is dubious that workers in the global North are more revolutionary than workers in the global South. Likewise, cycles of ecological struggle have to be incorporated into the logic of the multitude—not merely as something that "limits" social production or anthropogenesis. We live in a period where the globe itself revolts against global capitalism; however, as Malm reminds us (contra new materialisms, hybridisms and constructivisms) nature cannot "liberate itself" and any "ecological politics must...be anthropocentric, in an elemental, methodological and as such fairly harmless way."[376] Nature's revolutionary tendencies are not *constituted* by an antagonistic social subject but must be *mediated* by them if these tendencies are to achieve results conducive to the anti-capitalist left. The warming condition demands less "Latour" (i.e. flat network theories that, with false vengeance, tear down the purported relics of anthropocentricism and Cartesian dualisms and by doing so think they are doing the world a favour, when really they are unwittingly exposing the "poverty of philosophy") and more "Lenin" (i.e. robust forms of political organization that seek to overcome current power relations destroying planetary life).

[373] ibid., 207.
[374] ibid., 207.
[375] Hardt and Negri, *Multitude*, xiv, xv. My emphasis.
[376] Malm, *The Progress of this Storm*, 212.

BIBLIOGRAPHY

AEA. "Adapting the ICT Sector to the Impacts of Climate Change." *Department for Environment, Food & Rural Affairs*. August 2010. https://assets.publishing.service.gov.uk/ government/ uploads/system/uploads/attachment_data/file/183486/infrastructure-aea-full.pdf.

Agamben, Giorgio. *The Open: Man and Animal.* Translated by Kevin Attell. Stanford: Stanford University Press, 2004.

Baudrillard, Jean. *Forget Foucault*. Translated by Nicole Dufresne. Los Angeles: Semiotext(e), 2007.

———. *The Ecstasy of Communication*. Translated by Bernard Schütze and Caroline Schütze. Los Angeles: Semiotext(e), 2012.

———. *The Illusion of the End*. Translated by Chris Turner. Cambridge: Polity Press, 1994.

———. *The Mirror of Production*. Translated by Mark Poster. St. Louis: Telos Press, 1975.

Berardi, Franco "Bifo." "Anatomy of Autonomy." In *Autonomia: Post-Political Politics*, edited by Sylvére Lotringer and Christian Marazzi, 148-171. Los Angeles: Semiotext(e), 2007.

———. *And: The Phenomenology of the End*. Los Angeles: Semiotext(e), 2015.

———. "Cognitarian Subjectivation." *E-Flux* 20, (2010): 1-8.

———. "Emancipation of the Sign: Poetry and Finance During the Twentieth Century." *E-Flux* 39, (2012): 1-9.

———. "The Pathologies of Hyper-Expression: Discomfort and Repression." Translated by Arianna Bove. *EIPCP*. June 2007. http://eipcp.net/transversal/1007/bifo/en.

———. *The Soul at Work: From Alienation to Autonomy*. Los Angeles: Semiotext(e), 2009.

Boteler, Cody. "UN Estimates 50M Metric Tons of E-Waste to be Generated in 2018." *Waste Dive*. December 2017. https://www.wastedive.com/news/un-estimates-50m-metric-tons-of-e-waste-to-be-generated-in-2018/512324/.

Bourriaud, Nicolas. *The Exform*. Translated by Erik Butler. London: Verso, 2016.

Bratton, Benjamin. *The Stack: On Software and Sovereignty*. Cambridge: MIT Press, 2015.

Bridle, James. *New Dark Age: Technology and the End of the Future.* London: Verso, 2018.

Buchanan, Ian. *Deleuze and Guattari's Anti-Oedipus: A Reader's Guide*. London: Continuum, 2008.

Burrington, Ingrid. "The Environmental Toll of a Netflix Binge." *The Atlantic*. December 2015. https://www.theatlantic.com/technology/archive/2015/12/there-are-no-clean-clouds/420744/.

Caffentzis, George. "Immeasurable Value? An Essay on Marx's Legacy." In *Reading Negri: Marxism in the Age of Empire*, edited by Pierre Lamarche, Max Rosenkrantz, and David Sherman, 101-125. Chicago: Open Court, 2011.

———. "The End of Work, or the Renaissance of Slavery?" In *Revolutionary Writing: Common Sense Essays in Post-Political Politics,* edited by Werner Bonefeld, 115-134. Brooklyn: Autonomedia, 2003.

Camfield, David. "The Multitude and the Kangaroo: A Critique of Hardt and Negri's Theory of Immaterial Labour." *Historical Materialism* 15, (2007): 21-52.

Chakrabarty, Dipesh. "The Climate of History: Four Theses." *Critical Inquiry* 35 (2009): 197-222.

Citton, Yves. *The Ecology of Attention*. Translated by Barnaby Norman. Cambridge: Polity Press, 2017.

Clough, Nathan, and Renata Blumberg. "Toward Anarchist and Autonomist Marxist Geographies". *ACME: An International Journal for Critical Geographies* 11, no. 3 (2012): 335-51.

Cooper, Melinda. "Beyond Marx, Marx Before Marx: Negri's Lucretian Critique of the Hegelian Marx." In *Reading Negri: Marxism in the Age of Empire*, edited by Pierre Lamarche, Max Rosenkrantz, and David Sherman, 127-148. Chicago: Open Court, 2011.

Crary, Jonathan. *24/7: Late Capitalism and the Ends of Sleep*. London: Verso, 2014.

Cubitt, Sean. *Finite Media: Environmental Implications of Digital Technologies*. London: Duke University Press, 2017.

Culp, Andrew. *Dark Deleuze*. Minneapolis: University of Minnesota Press, 2016.

Debord, Guy. *The Society of the Spectacle*. Translated by Donald Nicholson-Smith. Brooklyn: Zone Books, 2012.

Derrida, Jacques. *Archive Fever: A Freudian Impression*. Translated by Eric Prenowitz. Chicago: The University of Chicago Press, 1998.

Deleuze, Gilles. *Spinoza: Practical Philosophy*. Translated by Robert Hurley. San Francisco: City Lights Books, 1988.

Deleuze, Gilles, and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia*. Translated by Robert Hurley, Mark Seem, and Helen R. Lane. New York: Penguin, 2009.

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

———. "Balance-Sheet for 'Desiring-Machines.'" Translated by David L. Sweet, Jarred Becker, and Taylor Adkins. In *Chaosophy: Texts and Interviews 1972-1977*, edited by Sylvère Lotringer, 90-115. Los Angeles: Semiotext(e), 2009.

———. *Kafka: Toward a Minor Literature*. Translated by Dana Polan. Minnesota: University of Minnesota Press, 1986.

———. *What is Philosophy?* Translated by Hugh Tomlinson and Graham Burchell III. New York: Columbia University Press, 1996.

Douglas, Mary. *Purity and Danger: An Analysis of the Concept of Pollution and Taboo*. New York: Routledge, 2002.

Dyer-Witheford, Nick. *Cyber-Marx: Cycles and Circuits of Struggle in High-Technology Capitalism*. Chicago: University of Illinois Press, 1999.

———. *Cyber-Proletariat: Global Labour in the Digital Vortex*. London: Pluto Press, 2015.

Emmelhainz, Irmgard. "Conditions of Visuality Under the Anthropocene and Images of the Anthropocene to Come." *E-Flux* 63, (2015): 1-13.

Federici, Silvia. "The Reproduction of Labor Power in the Global Economy and the Unfinished Feminist Revolution." In *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle*. Brooklyn: PM Press, 2012.

Fisher, Mark. *Capitalist Realism. Is There No Alternative?* Hants: Zero Books, 2009.

———. "No One is Bored, Everything is Boring." *Visual Artists Ireland*. July 2014. https://visualartists.ie/articles/mark-fisher-one-bored-everything-boring/

———. "What Are the Politics of Boredom?" In *K-Punk: The Collected and Unpublished Writings of Mark Fisher (2004-2016)*, edited by Darren Ambrose, 57-62. New York: Repeater, 2018.

Foster, John Bellamy, and Paul Burkett. "Value Isn't Everything." *Monthly Review*. November 2018. https://monthlyreview.org/2018/11/01/value-isnt-everything/.

Gabrys, Jennifer. *Digital Rubbish: A Natural History of Electronics*. Michigan: University of Michigan: 2013.

Gidwani, Vinay, and Anant Maringanti. "The Waste-Value Dialectic: Lumpen Urbanization in Contemporary India." *Comparative Studies of South Asia, Africa and the Middle East* 36, no. 1 (2016): 112-133.

Glanz, James. "Power, Pollution and the Internet." *The New York Times*. September 2012. https://www.nytimes.com/2012/09/23/technology/data-centers-waste-vast-amounts-of-energy-belying-industry-image.html.

Goodstein, Elizabeth. *Experience Without Qualities: Boredom and Modernity*. Stanford: Stanford University Press, 2005.

Gorman, Ryan. "IKEA uses a staggering 1% of the world's wood every year." *Daily Mail*. July 2013. https://www.dailymail.co.uk/news/article-2357216/IKEA-uses-staggering-1-worlds-wood-year.html.

Gorz, André. *Ecology as Politics*. Translated by Patsy Vigderman and Jonathan Cloud. New York: Black Rose Books, 1980.

Graedel, T.E, E. M. Harper, N. T. Nassar, and Barbara K. Reck. "On the Materials Basis of Modern Society." *PNAS* 112, no. 20 (2015): 6295-6300.

Grant, Iain Hamilton. "Mining Conditions: A Response to Harman." In *The Speculative Turn: Continental Materialism and Realism*, edited by Levi Bryant, Nick Srnicek and Graham Harman, 41-46. Melbourne: Re.Press, 2011.

———. *Philosophies of Nature After Schelling*. London: Continuum, 2008.

Hardt, Michael, and Antonio Negri. *Assembly*. Oxford: Oxford University Press, 2017.

———. *Empire*. Cambridge: Harvard University Press, 2000.

———. *Multitude: War and Democracy in the Age of Empire*. New York: Penguin, 2004.

Heidegger, Martin. *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*. Translated by William McNeill and Nicholas Walker. Bloomington: Indiana University Press, 1995.

Innis, Harold. *Empire and Communications*. Victoria: Press Porcépic, 1986.

Jacob, Joe. "Data Centers: A Latent Environmental Threat." *Duke Green Classroom*. March 2017. https://sites.duke.edu/lit290s-1_02_s2017/2017/03/08/data-centers-a-latent-environmental-threat/.

Johnson, Christopher. "The Prehistory of Technology: On the Contribution of Leroi-Gourhan." In *Stiegler and Techics*, edited by Christina Howells and Gerald Moore, 34-52. Edinburgh: Edinburgh University Press, 2013.

Kalaidjian, Andrew. "The Spectacular Anthropocene." *Angelaki* 22, no. 4 (2017): 19-34.

Lazzarato, Maurizio. "Immaterial Labor." In *Radical Thought in Italy: A Potential Politics*, edited by Michael Hardt and Paolo Virno, 133-150. Minneapolis: University of Minneapolis Press, 1996.

———. *Signs and Machines: Capitalism and the Production of Subjectivity*. Translated by Joshua David Jordon. Los Angeles: Semiotext(e), 2014.

———. "Some 'Misunderstandings' on Desire." Translated by Benoît Dillet. *La Deleuziana* 6, (2017): 50-60.

Lewis, Michael. "Of a Mythical Philosophical Anthropology: The Transcendental and the Empirical in *Technics and Time*." In *Stiegler and Techics*, edited by Christina Howells and Gerald Moore, 53-69. Edinburgh: Edinburgh University Press, 2013.

Loobrök, Ragnar. "Are Data Centers the Steel Plants of this Generation?" *Orange Website*. February 2018. https://www.orangewebsite.com/articles/data-center-pollution/.

Lordon, Frèdèric. *Willing Slaves of Capital: Marx and Spinoza on Desire*. Translated by Gabriel Ash. New York: Verso, 2014.

Mair, Peter. *Ruling the Void: The Hollowing Out of Western Democracy*. New York: Verso, 2013.

Malm, Andreas. *The Progress of this Storm: Nature and Society in a Warming World*. New York: Verso, 2018.

Malm, Andreas, and Alf Hornborg. "The Geology of Mankind? A Critique of the Anthropocene Narrative." *The Anthropocene Review* 1, no.1 (2014): 62-69.

Marazzi, Christian. *Capital and Affects: The Politics of the Language Economy*. Translated by Giuseppina Mecchia. Los Angeles: Semiotext(e), 2011.

———. *Capital and Language: From the New Economy to the War Economy*. Translated by Gregory Conti. Los Angeles: Semiotext(e), 2008.

Marx, Karl. *Capital: Volume 1*. Trans. Ben Fowkes. London: Penguin, 1992. Print.

———. *Grundisse*. Translated by Martin Nicolaus. London: Penguin, 1993.

Maxwell, Richard, and Toby Miller. *Greening the Media*. Oxford: Oxford University Press, 2012.

McLuhan, Marshall, and Robert Logan. "Alphabet, Mother of Invention." *Etcetera* 34, (1977): 373–383.

Moore, Jason W. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. New York: Verso, 2015.

Negri, Antonio. "Twenty Theses on Marx: Interpretation of the Class Situation Today." In *Marxism Beyond Marxism*, edited by Saree Makdisi, Cesare Casarino, and Rebecca E. Karl, 149-180. New York: Routledge, 1996.

———. *Time for Revolution*. Translated by Matteo Mandarini. London: Bloomsbury, 2013.

Nelson, Sara. "Beyond *The Limits to Growth*: Ecology and the Neoliberal Counterrevolution." *Antipode* 47, no. 2 (2015): 461-480.

Nelson, Sara, and Bruce Braun. "Autonomia in the Anthropocene: New Challenges to Radical Politics." *The South Atlantic Quarterly* 116, no. 2 (2017): 223-236.

Neyrat, Frédéric. "Elements for an Ecology of Separation: Beyond Ecological Constructivism." In *General Ecology: The New Ecological Paradigm*, edited by Erich Hörl and James Burton, 101-128. London: Bloomsbury, 2017.

———. *The Unconstructable Earth: An Ecology of Separation*. Translated by Drew. S Burk. New York: Fordham University Press, 2019.

Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Cambridge: Harvard University Press, 2013.

O' Neill, Bruce. *The Space of Boredom: Homelessness in the Slowing Global Order.* London: Duke University Press, 2017.

Parikka, Jussi. *A Geology of Media*. Minneapolis: University of Minnesota Press, 2015.

———. *The Anthrobscene*. Minneapolis: University of Minnesota Press, 2014.

Pasquinelli, Matteo. *Animal Spirits: A Bestiary of the Commons*. Rotterdam: NAi Publishers, 2008.

Pettman, Dominic. *Infinite Distraction: Paying Attention to Social Media*. Cambridge: Polity Press, 2016.

———. "Libidinal Ecology: Sex and the Anthropocene (I)." *Public Seminar.* January 2016. http://www.publicseminar.org/2016/01/libidinal-ecology-sex-and-the-anthropocene-i/

Read, Jason. *The Micro-Politics of Capital: Marx and the Pre-History of the Present*. Albany: State University of New York Press, 2003.

Roth, Karl Heinz, and Marcel van der Linden, eds. *Beyond Marx: Theorising the Global Labour Relations of the Twenty-First Century*. Leiden: Brill, 2013.

———. "Results and Prospects." In *Beyond Marx: Theorising the Global Labour Relations of the Twenty-First Century*, edited by Karl Heinz Roth and Marcel van der Linden, 445-485. Leiden: Brill, 2013.

Rosenkrantz, Max. "Empire, Imperialism and Value: Negri on Capitalist Sovereignty." In *Reading Negri: Marxism in the Age of Empire*, edited by Pierre Lamarche, Max Rosenkrantz, and David Sherman, 149-167. Chicago: Open Court, 2011.

Sanzaro, Francis. *Society Elsewhere: Why the Gravest Threat to Humanity Will Come From Within*. Alresford: Zero Books, 2018.

Schmidt, Alfred. *The Concept of Nature in Marx*. Translated by Ben Fowkes. London: Verso, 2014.

Serres, Michel. *The Parasite*. Translated by Lawrence R. Schehr. Minneapolis: University of Minnesota Press, 2007.

Simmel, Georg. "The Metropolis and Mental Life." *Blackwell Publishing*. Original Essay Published 1903. https://www.blackwellpublishing.com/content/bpl_images/content_store/sample_chapter/0631225137/bridge.pdf

Sloterdijk, Peter. *Bubbles: Spheres Volume I: Microspherology*. Translated by Wieland Hoban. Los Angeles: Semiotext(e), 2011.

Srnicek, Nick. *Platform Capitalism*. Cambridge: Polity Press, 2017.

Stiegler, Bernard. *For a New Critique of Political Economy*. Translated by Daniel Ross. Cambridge: Polity, 2010.

———. *Technics and Time, 1: The Fault of Epimetheus*. Translated by Richard Beardsworth and George Collins. Stanford: Stanford University Press, 1998.

Stoner, Alexander M., and Adony Melathopoulos. *Freedom in the Anthropocene: Twentieth-Century Helplessness in the Face of Climate Change*. New York: Palgrave, 2015.

Streeck, Wolfgang. "The Politics of Exit." *New Left Review*. August 2014.https://newleftreview.org/issues/II88/articles/wolfgang-streeck-the-politics-of-exit.

Swyngedouw, Erik. "Apocalypse Forever? Post-Political Populism and the Spectre of Climate Change." *Theory, Culture & Society* 27, no. 3 (2010): 213-232.

Thill, Brain. *Waste*. London: Bloomsbury, 2015.

Tinnel, John. "Grammatization: Bernard Stiegler's Theory of Writing and Technology." *Computers and Composition* 37, (2015): 132-146.

Thomas, Julia Adeney. "Why the Anthropocene is not 'Climate Change'—and Why that Matters." *Climate and Capitalism*. January 2019. https://climateandcapitalism.com/2019/01/31/why-the-anthropocene-is-not-climate-change-and-why-that-matters/

Tronti, Mario. "The Strategy of Refusal." In *Autonomia: Post-Political Politics*, edited by Sylvére Lotringer and Christian Marazzi, 28-35. Los Angeles: Semiotext(e), 2007.

Vercellone, Carlo. "From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism." *Historical Materialism* 15, (2007): 13-36.

Virno, Paolo. *A Grammar of the Multitude*. Trans. Isabella Bertoletti, James Cascaito and Andrea Casson. Los Angeles: Semiotext(e), 2004.

———. "Do You Remember Counterrevolution?" In *Radical Thought in Italy: A Potential Politics*, edited by Michael Hardt and Paolo Virno, 241-259. Minneapolis: University of Minneapolis Press, 1996.

———. "Labour and Language." Translated by Arianna Bove. *Generation Online*. July 2001. http://www.generation-online.org/t/labourlanguage.htm.

———. "Notes on the 'General Intellect.'" In *Marxism Beyond Marxism*, edited by Saree Makdisi, Cesare Casarino, and Rebecca E. Karl, 265-272. New York: Routledge, 1996.

———. *When the Word Becomes Flesh: Language and Human Nature*. Translated by Giuseppina Mecchia. Los Angeles: Semiotext(e), 2015.

Wark, McKenzie. "A Geology of Media: On Jussi Parikka." *Public Seminar*. February 2017. http://www.publicseminar.org/2017/02/parikka/.

———. "The Capitalocene: On Jason Moore." *Public Seminar*. October 2015. http://www.publicseminar.org/2015/10/the-capitalocene/.

———. "Virno on Human Nature." *Public Seminar*. July 2016. http://www.publicseminar.org/2016/07/virno3/.

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"The Micropolitics of Jazz." *No-Fly Zones and Molotov Cocktails*, The University of Western Ontario. (2016).