Mechanical Animals: Big Data, Class Composition, and the Multitude.

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> Certainly the jurists wanted to tame the wild beast, but here we have before us an already domesticated animal - even worse, one reduced to mechanical behaviours and to the inert repetition of a preconstituted social base. (Negri 1999, 9-10)

Abstract

Recent work on "surveillance" and "platform" capitalism propose that the adjectives mark out something new and unprecedented. However, both electronic surveillance and online platforms are part of a larger ecosystem which combines machine learning algorithms and Big Data to draw conclusions and make inferences about individuals and populations. In addition, both surveillance and platform fit within a historical process of the restructuring of labour. In this paper, I will argue that Shoshana Zuboff's "surveillance capitalism" and Nick Srnicek's "platform capitalism" only see part of the total picture. Drawing on the theoretical work of Antonio Negri, I will offer a way of thinking about machine learning and Big Data that situates them within the process of subsumption identified by Marx, and the diagnosis of the current conjuncture as a period of "cognitive capitalism". I will begin by looking at the work of Zuboff and Srnicek before turning to Negri's interpretation of subsumption and "general intellect". I will then turn to questions of aggregate populations, the multitude, and the promise of collaborative labour offered by the Internet and social media.

Introduction: Surveillance and Platforms

Much of the analysis of platforms, data, and surveillance are predicated on a methodological individualism which sees platform users as individuals carrying out activities which merely happen to take place on digital platforms. In some cases, these activities are simply pre-digital tasks carried over into the digital realm, in other cases they constitute relations between users which are only mediated by the platform. In this paper, I want to make two claims: first, that such individualism obscures the aggregate nature not only of the user-base but

of the ways in which data is collected, analyzed, and employed for commercial or control purposes; and second, that the activities carried out on digital platforms have been entirely restructured according to the logic of networked machines themselves.

Two major interpretations of the social effects of new technologies are Nick Srnicek's "platform capitalism" and Shoshana Zuboff's "surveillance capitalism". Srnicek and Zuboff each argue that what we are witnessing is a new phase of capitalism defined, on the one hand by the prevalence of digital platforms, on the other hand by the deployment of such platforms for surveillance purposes. Srnicek claims that platform capitalism is "a new way of accumulating capital" (Srnicek 2017, 36) predicated on a "massive new raw material to appropriate: data" (88). However, while Srnicek rightly connects the novelty of platform capitalism to long-term socio-economic trends and developments, Zuboff sees "surveillance capitalism" not only as new, but as unprecedented. Surveillance capitalism, she writes, is "a new actor in history, both original and sui generis. It is of its own kind and unlike anything else." (Zuboff 2018, 14).

Both Srnicek and Zuboff, however, agree that it is the individual which is the target of both platform and surveillance capitalism. Srnicek sees platforms as mediating between users, with user activity seen as independent of the platform itself, self-directed non-technological acts engaged in by autonomous individuals. Platforms, in this view, are situated between users who are carrying out their own activities and are simply "the ground on which their activities occur" (44). For example, Uber is a platform that connects drivers and riders, but is not seen as structuring that relationship; Facebook is a platform that underpins social interactions between users, but the social interactions are unchanged from the pre-digital days. The ability to track, analyze, and monetize social interactions becomes almost an afterthought. Similarly, Zuboff sees the behaviour of users on social media platforms as independent of the ability to track that usage. The advances in information technology that began in the 1990s have led, in Zuboff's view, to a situation "in which every casual search, like, and click was claimed as an asset to be tracked, parsed, and monetized by some company… eventually, companies began to explain these violations as the necessary quid pro quo for 'free' internet services" (52). By characterizing tracking of activity and exploitation of user-data as "violations" Zuboff posits activities on social media platforms as independent and autonomous behaviour which only becomes the target of capitalist exploitation after the fact. For Zuboff, society is composed of sovereign individuals with rights who act autonomously - sovereignty and rights which are challenged by a parasitic surveillance capitalism:

> The new harms we face entail challenges to the sanctity of the individual, and chief among these challenges I count the elemental rights that bear on individual sovereignty, including the *right to the future tense* and the *right to security*. Each of these rights invokes claims to individual agency and personal autonomy as essential prerequisites to freedom of will and to the very concept of democratic order. (54)

The ontological claim that rights-holding individuals form the basis of society has a long lineage in liberal political theory and classical political economy. Indeed, Marx directly challenged the methodological individualism of Proudhon in *The Poverty of Philosophy* 1847 (Marx 1963) and that of Smith and Ricardo in the "Introduction" written ten years later (Marx 1973). Robert Urqhart explains the persistence of methodological individualism by arguing that it supports the capitalist economic regime: "The enactment of the idea of the atomic individual facilitates the development of the economic order, and to a degree turns the mistake into reality" (Urqhart 2013, 813). Marxist theory, on the other hand prefers to rely on an ontology of "methodological collectivism" (Weldes 1989, 355) which, as we will see below, informs Antonio Negri's conception of the multitude, and offers a different perspective on platform and surveillance capitalism.

In both Srnicek and Zuboff, the presumption of individualism allows them to see a strict separation between the natural activity of individuals on the one hand and the aims of platform and surveillance companies on the other. For Zuboff, "individuals are definitively cast as the means to others' market ends" while "information and connection are ransomed for the lucrative behavioural data that fund immense growth and profits" (54). This separation ignores both the affective implications for users within digital networks and platforms, as well as the importance of aggregate user groups in the formation of Big Data sets and the mining of that data for surveillance, commercial, and control purposes.

While Srnicek admits that platforms are not merely "empty spaces for others to interact on" but "in fact embody a politics" (47), he sees platforms as not restructuring immaterial or unseen labour itself, but merely appropriating data as a by-product of user-activity. For example, "rather than exploiting free labour", advertising platforms "appropriate data as a raw material" (56). While recognizing that platforms are not neutral spaces, Srnicek still insists that "platforms are digital infrastructures that enable two or more groups to interact" (43). This understanding of platforms as enablers rather than structuring processes in their own right comes from Srnicek's conception of labour and value in platform capitalism. Srnicek analyzes the various claims made regarding online behaviour as "free labour", but in the end denies that platform capitalism

profits off any kind of online labour, instead arguing that user data is a "raw material" that is simply harvested by platform capital (53-56). For Srnicek, user actions still mainly occupy a space outside of platforms, thus supporting the idea that platforms mediate already-existing behaviour but do not newly construct user actions and behaviours. Once user activity takes place on a platform, though, it is *then* ripe for harnessing by capital as value: "The activities of users and institutions, if they are recorded and transformed into data, become a raw material that can be refined and used in a variety of ways by platforms" (56). What Srnicek ignores, however, is the covert, behind-the-scenes, "backdoor" tracking of user activity analyzed by Zuboff. The platforms are ubiquitous and so it is hard to argue, as Srnicek would like, that there is any activity within a digital environment which is not structured by a platform and subject to surveillance.

The gradual restructuring of online activity from conscious online labour (open-source software development is a good example) to mystified, aggregated, "always-on" monitoring, analysis, and exploitation accords with the long term processes of subsumption developed by Marx and which form a core component of autonomist Marxist theories of capitalist development. Subsumption of labour under capital sees some activities to be outside the scope of surplus-value-extraction until they are "brought into the fold" of the labour process. In this sense, we can understand platform capitalism as a process of subsumption in which previously non-digital, offline activities like searching for information, booking a taxi, or interacting socially, were initially moved online without changing their nature (formal subsumption) and then gradually deconstructed and remade the more easily to exploit online labour and profit from its product (data). From using a phone book, booking a taxi was then done on a firm's website or using a mobile app; the development of sophisticated ride-share systems completely restructured the taxi business, making both driver and rider users within an atomized networked social machine. Srnicek and Zuboff continue to see the digital realm as only *formally* subsumed, as a consequence of their methodological individualism and the separation between the individual and the network that follows from it.

However, once we recognize platform capitalism as the result of *real* subsumption, of the complete restructuring of online activity and its total recuperation by the process of value-creation, then surveillance and data-mining are no longer after-effects, but are the core business of the platforms themselves. One consequence of this is that users must be understood not merely as engaging in traditional, self-directed activities in a new place, but as completely integrated within a social machine whose purpose is to extract aggregate surplus-value from tiny isolated moments of labour which, under conditions of formal subsumption, were not considered productive or profitable. What follows from this is that it is not the individual actions which are of interest to contemporary

capitalism, but activity in the aggregate, the movement of the multitude through the gates and circuits of digital capitalism.

Subsumption and General Intellect

The publication in the 1930s of a draft of the sixth chapter of *Capital* on "The Results of the Immediate Production Process", as well as the notebooks which form the *Grundrisse*, engendered a major advance in the understanding of Marx's political economy (Mandel in Marx 1976, 943). Together, they provide a framework for understanding the processes of development within the capitalist mode of production, with the stages of formal subsumption, real subsumption, and general intellect marking out particular moments in capitalist history (Vercellone 2007, 15; Endnotes 2010, 141). For Marx, the transition from formal to real subsumption was characterized by a change in capital's focus from increasing the production of absolute surplus value (i.e. increasing labour-time) to an increase in the production of relative surplus value. Increasing relative surplus value requires a change not to the duration of labour, but to its productivity, and Marx's understanding of the role of technology in this process relates to its ability to increase productivity while decreasing capital's reliance on human labour. But technology is not the only element of this process: cooperation and collaboration, the socialization of production are also deepened and intensified in the process of real subsumption.

In a discussion of "The Results of the Immediate Production Process," Negri notes that the particular problem raised by subsumption is how valorization is expanded from an individual to a social function:

> What does it mean that the social labour process has, in real subsumption, transformed itself into the social process of valorization, and vice versa? What does it mean that the social forces of production have been absorbed by capital and have become a 'force of production' of capital? (Negri 2017, 50).

For Negri, the biopolitical forces involved in the collective factory are not individual, but aggregate ones. Furthermore, due to the intersection of technology and collectivity in the process of real subsumption, the collective factory is "traversed and reorganized by science; and science too is incorporated in capital" (50).

The incorporation of science in the fabric of capital connects subsumption to Marx's conception of the "general intellect". In a famous passage from the *Grundrisse*, Marx notes that with the development of machinery (and today, virtual machinery), not only physical but intellectual labour – science, knowledge – becomes embodied in fixed capital. As a result, "general social knowledge has

become a direct force of production", enabling the material control of "general intellect" over social life (Marx 1973, 706).

In the *Grundrisse*, Marx offers two potential results of the process, the first characterized by Nick Dyer-Witheford as a "capitalist utopia" in which human workers are reduced to simply serving as cogs in an enormous social machine, somehow continuing to produce profit even with living labour reduced to the bare minimum. This view of technology - the embodiment of scientific knowledge - at the peak of real subsumption sees human workers as imbricated within the social network, a more accurate description of the current state of platform labour than Srnicek's data-harvesting model or Zuboff's focus on data-as-surveillance. Looked at in this way, data is the commodity produced by human labour totally restructured by the network.

Srnicek argues that the data-harvesting model makes more sense because it seems hard to recognize the work of platform users as labour, and hard to understand what constitutes *value* in that case. Srnicek argues that, if we understand platform labour as labour, then

> it will be pressured by all the standard capitalist imperatives: to rationalize the production processes, to lower costs, to increase productivity, and so on. If it is not, then those demands will not be imposed. In examining the activities of users online, it is hard to make the case that what they do is labour, properly speaking. Beyond the intuitive hesitation to think that messaging friends is labour, any idea of socially necessary labour time - the implicit standard against which production processes are set - is lacking. (Srnicek 2017, 55)

This is precisely the observation Negri makes in his 1978 lectures on the *Grundrisse*, that with the development of subsumption (i.e. Srnicek's "standard capitalist imperatives"), the law of value under capitalism is thrown into crisis. We will return to the crisis of the law of value below.

However, Zuboff too distances the work performed under "surveillance capitalism" from labour, arguing that contemporary society is no longer marked by the division of labour, but by a "division of learning" which "establishes the basis for our social order and its moral content" (185). In the current conjuncture, "the division of learning emerges from the economic sphere as a new principle of social order and reflects the primacy of learning, information, and knowledge in today's quest for effective life" (43). However, Marx's argument that the development of a technological society, a society whose productivity "depends rather on the general state of science and on the progress of technology" prefigures Zuboff's contention, and Zuboff's reliance on knowledge and learning rather than on physical labour-power does in fact - contrary to Srnicek - see labour "reduced to a pure abstraction", as Marx writes:

> Labour no longer appears so much to be included within the production process; rather the human being comes to relate more as watchman and regulator to the production process itself. (What holds for machinery holds likewise for the combination of human activities and the development of human intercourse). (Marx 1973, 705).

Franco Berardi puts it more explicitly when he argues that the physical activities involved in online labour (typing, mouse clicking, staring at a monitor) is the same for all cognitive workers, despite huge differences in the cognitive content of their work (Berardi 2009, 2-3).

For users of digital platforms, the "combination of human activities and the development of human intercourse" becomes part of an affective pull, an emotional attraction to the platforms themselves, which indeed subsumes activities like "messaging friends" under "capitalist imperatives" - this is precisely what the process of real subsumption looks like in the age of cognitive and affective labour. When we recognize users as labourers on social media platforms rather than as autonomous agents, we can understand how the very cooperation and collaboration required by real subsumption is combined with an affective response mediated through technology to restructure social relationships (including friendship) to make them core components of a new regime of surplus-value extraction.

Srnicek reduces the cooperative aspect of digital platforms to a concern with "network effects", in which "the more numerous the users who use a platform, the more valuable that platform becomes for everyone else" (Srnicek 2017, 45). This affective dimension – the platform as use-value – "means that platforms must deploy a range of tactics to ensure that more and more users come on board" (46). However, as Phoebe Moore has pointed out, "capture and control" of the unseen labour of platform users is an attempt to "prevent full affectivity" and the "shared affinity" of workers. That is, because post-Fordist labour is about communication, collaboration, and affective engagement, it becomes more difficult to keep workers from becoming conscious of their agency and power to act. Moore writes that

> when workers become conscious of affect, or their power to act, they also become conscious of their ability to impact one another and to challenge abuses at work. This occurs through collaborative work, communication about working conditions and organizing, which all start with affect. (Moore 2018, 94).

In this, Moore is very close to the autonomist position that it is precisely the combination and collaboration of workers that allows them to threaten the dominance of capital, which seeks in turn to "decompose" the collectivity of workers through the process of subsumption. Srnicek and Zuboff's focus on

individual workers, then, is only part of the story; we also have to have an understanding of how multitudes of workers fit into the current moment.

Social Aggregations and the Multitude

In addition to dealing with individuals in terms of rights, responsibilities, etc, political theory concerns itself with various kinds of aggregations. While "society" is often too broad to be analytically or normatively useful to political science, and hence more properly dealt with by sociology, concepts of "nation", "people", "class", and "identity" often hold ontological primacy in particular political theories. "The masses" for example was an undifferentiated aggregation of people in both Soviet and Maoist theory, understood as composes of particular subaltern social classes (typically peasants and workers), but in which social class became subsumed within the whole of the mass. "Nation" forms the ontological foundation of various nationalisms, both political and ethnic, and has seen a recent resurgence in the rise of "white nationalism" and the insularity of Trump's America and Brexit Britain. As Sheila Croucher has noted, identity itself has become an important political characteristic ("identity politics"), seen either as a cause for celebration or rejection, depending on political allegiance (Croucher 2018, 3). Liberal political theory tends to subscribe to an individualist rather than a collective ontology, making it distrustful of both of class-based theories and ones based on group identity.

What each of these categories has in common is that they are ways of aggregating individuals, of subsuming some individual differences within group characteristics. Jodi Dean argues that such categories operate as "zero institutions" which accounts for "the way in which people with radically different descriptions of their collectivity nevertheless understand themselves as members of the same tribe" (Dean 2009, 42). The risk with all such aggregating processes is that individualism is lost within the formation of the group identity (Dean 2018, 73). The regimentation and homogenization of individual difference was an important element in the construction of the German "volk" under the Nazis, and the erasure of individuality an element of the ideological fight against the Soviet Union during the Cold War.

The tension between individuality and aggregation, or sociality, lies at the heart of Negri's reading of Spinoza. Like Marx, Negri does not see society as composed of originary individuals deciding to come together and creating a social contract. Rather, individuals are born into a pre-existing society, a pre-existing sociality, and what Spinoza calls the multitude (*multitudo*) is the integration of individual being with social being:

> The passage to society is not represented by any concession of right as it is in seventeenth-century absolutist thought; rather it is presented in a leap forward that integrates being, from solitude to multitude, to sociability that, in itself and for itself puts an end to fear. (Negri 2000, 204)

For Negri, the multitude "does not tend to become a totality", that is, a class, nation, people, or mass, but remains "a set of singularities, an open multiplicity" (Negri 1999, 14). It is this openness that places the constituent power (*potentia*) in conflict with the constituted power (*potestas*) of the state, and which generates the possibility of political action. The multitude constantly produces, creates, and thereby develops new social relationships, new ethical and social norms and rights. These in turn create a social power "through the logic of immediate, collective, and associative relations" which becomes an "ethics of collective passions, of the imagination and desire of the multitude" (Negri 1999, xv). It is this self-created constituent power which runs afoul of the constituted power of politics, religion, etc. In Negri's reading of Spinoza's radical conception of democracy, "power does not exist… except to the extent that it is a constituent power, completely and freely constituted by the power of the multitude" (Negri 1999, xvi).

Online platforms, in this view, are a structuring agent of the constituted power of private capital, while surveillance is a tool employed by the constituted power of both corporations and the state. In both instances the concern is less with individuals than with the potential constituent power of the user base.

Negri's reading of Spinoza fits within the operaist and post-operaist conception of the autonomy of the proletariat, the multitude which is in permanent antagonism to the constituted power of capital. Communism, for Negri, is the society which arises out of the constituent power of the multitude. Indeed, Negri's Spinozan democracy becomes a precursor to Marx's classless association in which "the free development of each" becomes "the condition for the free development of all" (Marx and Engels 1992, 26). We can read the development of an ethical, social, and political superstructure on the "base" of the creativity and productivity of the multitude as a metaphysical grounding for historical materialism itself.

Immaterial Labour and Revolutionary Subjectivity

In the 1980s, Negri announced the advent of a new revolutionary social subject based on the post-Fordist reconfiguration of labour. In the developed centres of capitalism, computerized automation led to the predominance of immaterial labour (both intellectual and affective) over older forms of craft and industrial labour. Such older forms of labour had gradually been subsumed

under the power of capital and locked into workshops and factories. Immaterial labour, however, took place in the wider "social factory" and, since it was impossible to measure quantitatively, caused a crisis in the law of capitalist value (Negri 1984, 4). It is this immeasurability that Srnicek sees simply as disqualifying platform labour as labour, while Negri sees it as marking a deeper need for the recomposition of the labour-capital relationship. Indeed, following the model of composition, decomposition, and recomposition developed by the Italian autonomists, Negri sees the reconfiguration of post-Fordist labour as the necessary foundation for a new composition of a revolutionary working class. This new revolutionary subject exploded on the scene in a series of student strikes in 1986, and Negri described the production of this new subject as an "eminently intellectual labour force". The work performed by this labour force

> is *abstract.* As such it is carried out by multitudes of people, but which, at the same time, is singularized. To the extent that it has a vast number of determinate, specific potentialities, it is work that tends to appear merely as activity. (Negri 1989, 50).

At the time, this intellectual labour appeared to many theorists to characterize a new working-class potential for subversion and revolutionary activity. Negri's position was part of a larger tendency that saw computerization and the social networking made possible by the internet as constitutive of a "cognitive capitalism" (Moulier-Boutang 2011) which would overcome the labour-capital antagonism and, due to the crisis in the law of value, seamlessly transition to a new classless society. This tendency persists in, for example, theories of "fully automated luxury communism" (Bastani 2019), but it has always been heavily criticized for failing to deal with the persistence of real material exploitation in the world of capitalist production. George Caffentzis, for example, argues that the theorists of cognitive capitalism "dismiss the range and complexity of the forces in the field on both sides of the class line that make capitalism more unstable and, at the same time, potentially more enduring" (Caffentzis 2013, 95). More recently, Evgeny Morozov, in a long review of Zuboff's *Age of Surveillance Capitallism*, explicitly equates cognitive, surveillance, and platform capitalism, and argues that the thesis of cognitive capitalism proved untenable:

> The key premise of the Italian autonomist theory - that capital was becoming external to labor, allowing empowered cognitive workers, now scattered through the social factory, to self-valorize - looks increasingly questionable. The autonomists' conception of techno-capitalists as passive and freeloading rentiers is hard to reconcile with the massive, multibillion-dollar capital investments

> undertaken by today's tech giants. If these are the rentiers, then who are the capitalists? (Morozov 2019).

To my mind, Morozov misunderstands both the autonomist and the cognitive capitalist arguments, arguing that "the Italian vision, shrunk to vulgar slogans, now mostly survives in the idea that users of tech platforms produce value and should be paid for it" (Morozov 2019). This view ignores the many radical critics of cognitive/surveillance/platform capitalism who are arguing for a radical restructuring of technology and labour, especially in the context of climate change.

Much of the criticism of the cognitive capitalist thesis is predicated on the idea that Negri and others are arguing that capitalism has already ended. Caffentzis, for example, wrote that the discourse of "the end of work" is "not only theoretically and empirically disconfirmed" but also "creates a failed politics because it ultimately tries to convince both friend and foe that, behind everyone's back, capitalism has ended" (Caffentzis 2013, 81). The truth of contemporary capitalism must lie somewhere between a premature announcement of its death and the heralding of something completely new, as Srnicek and Zuboff do. Capitalism is clearly still with us, and old forms of the labour-capital relationship persist and coexist with the new. However, while forms of labour still subject to the law of value continue to exist (hourly jobs, industrial and manufacturing jobs), and while the law of value continues to *discursively* structure even immaterial labour, what Negri described did in fact come to pass: in the centres of capitalist development, workers exist within a machine ecology, their every moment structured by banking systems (Lazzarato 2012), wearables (Moore 2018), cellphones (Berardi 2009), and digital entertainment. Berardi writes that "the invisible hand has been embedded in the global technology of the linguistic machine, and language, the essential environment of mankind, has been turned into a wired, automated system" (Berardi 2012, 25-6). Capital has succeeded in harnessing even the "abstract activity" of the new labour force, inserting workers into the network of machines that constitute the "walled gardens" of the various online services. What, in the early days of the internet, appeared as self-directed production outside the relationships of commodity exchange (open-source software development, for instance) has been - unsurprisingly - brought into the capitalist fold. Indeed, social media is the platform *par excellence* where the abstract activity of users (producing, liking, and sharing "content" for free) has been hooked to the mechanisms of surplus value production, circulation, and exchange, to the mechanism of profit itself.

Social media – platforms and surveillance - therefore raise the possibility of unified, self-directed labour outside the centralized control of capital, but also

disunites people, increases alienation, and works to prevent the formation of any kind of democratic community.

For Negri, this ambiguous process harnessing "distributed intelligence" and the "brainpower of entire communities" prompted a re-engagement with Marx's *Grundrisse*, and more specifically with the "fragment on machines". Negri reads in the fragment premonition of a crisis of value which he subsequently locates within postmodernism and the composition of a new revolutionary subject. In conditions of real subsumption, Negri writes, "the entire society becomes one enormous factory or rather, the factory spreads throughout the whole of society… production is social and all activities are productive" (Negri 1989, 204). Rather than seeing this process as a negative totalization of the domination of capital, Negri sees this as a positive development in which class antagonism is seemingly eliminated along with surplus value, leading to a new phase of human society "in which the paradox of the most complete abstraction of labour, together with its extraordinary productivity, is dissolved and becomes, according to Marx, a power of the collective individual, the liberation of singularity and the discovery and joy of free, communal activity" (Negri 1989, 204-5).

George Caffentzis takes issue with Negri's position, writing that Negri ignores the material antagonism growing out of the capitalist enclosure of the global periphery. There the law of value still holds, and Caffentzis sees the "Third World" as "locales of the 'counteracting causes' to the tendency of the falling rate of profit" (Caffentzis 2013, 79). Additionally,

> In order for there to be an average rate of profit throughout the capitalist system, branched of industry that employ very little labor but a lot of machinery must be able to have to 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 e 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 sweatshop, and the cyborg's existence is premised on the slave. (79)

Empirical work, such as that performed by Nick Dyer-Witheford in *Cyber-Proletariat* (2015) bears out Caffentzis's view that the high-tech centre relies on the hyper-exploitation of the periphery. However, I believe that Caffentzis's argument misunderstands Negri's position. Caffentzis reads *Capital* as superseding the arguments made in the *Grundrisse*; however, Negri sees the earlier text not as a first approximation of the more mature thought of *Capital*, but as a radically distinct way of approaching the entire question of capitalist society. Rather than "the book which exhaustively recapitulates all of Marx's

research", Negri sees *Capital* as "only one part, and a non-fundamental part at that, in the totality of Marx's thematic" (Negri 1984, 5). The *Grundrisse* "is not a text than can be used only for studying philologically the constitution of *Capital*," but has a completely different focus: whereas "the objectification of categories in *Capital* blocks action by revolutionary subjectivity… the *Grundrisse* is a text dedicated to revolutionary subjectivity" (8). In analyzing *industrial* capitalism, *Capital* exposes the framework through which a particular revolutionary subjectivity - one proper to industrial capital - is structured. When Negri writes that "in postmodernism, the antagonistic framework, which in Marx constitutes the dynamic key to the construction of subsumption, is in effect eliminated" (Negri 1989, 204) with the advent of the new labour-capital regime, it is not antagonism itself which is eliminated, but merely the framework through which revolutionary activity had been structured for two hundred years. The antagonistic framework of industrial capital created a particular kind of subjectivity and relied on a particular process of technical and economic progress (subsumption). For Negri, under postmodernism, the "new economy" calls forth both a radically new subjectivity and a new dynamic process.

Put another way, various readings of Negri's work focus on his insistence on the positive moment of immaterial labour, the creation of cyborgs, and the privileging of cognitive workers as a new revolutionary subject and presume that he ignores both the continuation of material exploitation within the advanced centres and the expanded enclosures and hyper-exploitation of the periphery. However, it seems to me that Negri's position is more an attempt to break away from the reliance on traditional modes of thinking about labour, value, and exploitation developed in the industrial period. Rather than denying their existence, Negri wants to focus on "the aim of a richer, more amenable human society" which is "hinted at" in the new conjuncture (Negri 1989, 206). In the same way, while the workerists did not deny the continuation of the industrial worker in the factory, they chose to concentrate on newer forms of labour and social organization as they began to appear in the social factory of the 1960s and 1970s.

Negri's positive perspective is not accidental. Timothy S. Murphy argues that around the time of the *Savage Anomaly* (1981), Negri turned from an essentially negative focus on capitalism and the state, which "generated extremely aggressive (and effective) theoretical assaults on… hegemonic forms of ideology", but which was "unable to produce similarly powerful models for affirmative, that is, revolutionary alternatives" (Murphy 2004, viii). Negri's reading of Spinoza allowed for a "shift from a negative first foundation to an affirmative and ontological second foundation" (ix). This refoundation allowed Negri to move from a historical perspective to one radically oriented towards the future:

> Time-to-come is the time of alternatives, of affirmation, the time in which Spinoza's early modern project of liberation dovetails with Negri's postmodern one to create a new matrix for communism and radical democracy that Negri calls 'anti-modernity'. (ix).

The reorientation towards the time-to-come is vital to an understanding of Negri's position, which does not preclude the continuation of primitive accumulation (enclosure), formal subsumption, or real subsumption into the moment of general intellect, but rather focuses on the "hints" of a future communist society constituted by the Spinozan democracy of the multitude. Such future-orientedness is a common feature of Marxist thought, as Lars Lih points out (Lih 2006, 44-45).

The desire to pin Negri down to a univocal position also affects readings of the fragment on machines. Often, the moment of general intellect is read as the single positive outcome of Marx's logical development of capitalist technological restructuring. For example, Paul Mason sees the positive outcome "predicted" in the fragment on machines as disproved by the industrial capitalism of Marx's day, but ripe for re-evaluation in the contemporary moment of "post capitalism". Mason argues that in the decade following the financial crisis of 1858 during which Marx wrote the *Grundrisse* notebooks, he turned away from the positive vision developed in the fragment and instead

> constructed a theory of capitalism in which the mechanisms of exchange are *not* exploded by the emergence of a general intellect, and in which *no* mention is ever made of knowledge being an independent source of profit. In other words, Marx retreated from the specific ideas of the *Fragment on Machines*. (Mason 2015, 137).

However, this either/or determinism (between *Capital* and the *Grundrisse*, and between positive and negative outcomes of the process of subsumption) is overly simplistic. In fact, *both* visions of a possible future are present in the fragment on machines. Furthermore, they are not presented as a single chronological procession. Rather, they appear as two distinct potential futures, one a "capitalist utopia" in which dead labour triumphs over living labour, and the other a "capitalist nightmare" in which the general intellect inaugurates the democratic communism of the multitude (Dyer-Witheford 1999, 220). Dyer-Witheford sees the utopia as containing the seeds of the nightmare, capitalist triumph leading to the victory of the general intellect and, indeed, a condition in which Caffentzis's criticism of Negri ("all investment would stop and the system would terminate") comes to pass. But in order to avoid determinism, in order to ensure the agency of revolutionary subjectivity, these two potential futures must be understood as

equally possible. Whichever option one sees as "hinted at" in the current conjuncture becomes, then, a political choice.

Negri writes that the transition from the capitalist utopia to the capitalist nightmare is not pre-ordained: "When the capital relation has reached the point where it explodes, the liberated negation is not a synthesis. It knows no formal equivalences whatsoever. *Working-class power is not the reversal of capitalist power, not even formally*" (Negri 1984, 150). Contrary to Mason's reading of the fragment on machines, Marx does not posit a capitalist society with "knowledge being an independent source of profit", since in the future Negri is oriented towards,

> there is no more profit because labour productivity is no longer translated into capital… There is no more capitalist rationality. Subjectivity not only liberates itself it liberates a totality of possibilities. It draws a new horizon. Labor productivity is founded and spread socially… The communist revolution, the emergence in all its power of the social individual, creates this wealth of alternatives, of propositions, of functions. Of liberty. (Negri 1984, 150)

Obviously the "now" in question does not refer to 1978 (the date of Negri's lectures on the *Grundrisse*); the present-tense refers to a time-to-come. In addition, in order for the *Grundrisse's* revolutionary subjectivity to liberate a totality of possibilities, to create the wealth of liberty itself, the move from the total subsumption of labour under capital to the triumph of the general intellect, cannot be predetermined. In many ways, this question relates to religious arguments over free will, evil, and predestination.

The mistake Caffentzis makes is to attribute to Negri a "technological determinism by claiming that there is only one way for capitalism to develop" (Caffentzis 2013, 80), which is hard to reconcile with Negri's insistence on antagonism and the power of revolutionary subjectivity. A more productive reading, for example, is that when Negri describes capitalism as "merely an apparatus of capture, a phantasm, an idol", he is not speaking about the current moment, but about the time-to-come. This may seem like special pleading, but in many ways such a future-oriented reading of Negri is productive in a utopian sense. By insisting on the agency and creativity of the multitude, he is able to keep the idea of a self-directed autonomous communism on the agenda.

Caffentzis's criticism is understandable, however. The periphery continues to be hyper-exploited by the traditional mechanisms of primitive accumulation and industrial capitalism (Dyer-Witheford 2014, 14). The promise of the internet - decentralized, non-alienated connection, communication, and sociality - has become yet another site of alienation and the exploitation of labour, as well as political interference and anti-democratic manipulation. The intellectual and affective labour of producing and engaging with social media content, reduced to the abstractions of liking and sharing, has become the means by which the

constituted power of capital has brought the constituent power announced by Negri under control. Rather than heralding a radical democracy, the multitude of immaterial labour that was involved in the cycle of struggles of the late 1980s and early 1990s, has seen its activity coopted by the political and economic power of the capitalist state.

Big Data and Class Composition

Platforms supported by machine learning and the Big Data sets they operate on can be understood as tools used by capital in the process of construction and dismantling of a working class in constant engagement with the power of capital itself. Negri sees capital as always (until the time-to-come) bringing together the cooperative and collaborative powers of labour, and in the 21st century this definitely includes platform labour. This assembly, however, always risks becoming aware of its own collective agency, its own possibility for self-directed production, with this risk taking the form of both economic struggle (shortening the working day, for example, or raising wages) and political struggle (strikes, sabotage, agitation, etc.), both of which cut into profits. In response, capitalist technological restructuring, such as the development of electronic surveillance and platform labour, is one of the means by which capital seeks to escape from the constantly reforming constituent power of the multitude. The paradox of capitalism is that it must always assemble the cooperative and social *productive* power of labour while seeking to deflect or diffuse its autonomous economic and political power. The relationship of labour and capital is one of constantly composing, decomposing, and recomposing the social power of the multitude.

The age of Big Data - of surveillance and platform capitalism - is the latest moment in an ongoing process of recomposition. Social media and platform capitalism more generally seek to harness the collective activity of the labour of individuals while maintaining and even increasing each individual's isolation and alienation (Fuchs 2014, 259-260). The fact that what is harnessed by social media and the biopolitical traces we leave with other online services are immaterial - intellectual, cognitive, affective - as well as spatial and economic, allows capital to compose a working class by bringing people together within social or collaborative systems that at the same time keep them physically and politically separate. By harnessing the promised self-activity of the early internet, Big Data and its platforms mystify anew the control capital holds over production and circulation of data itself. Data becomes what is accumulated by surveillance, which simply means harvested from the social labour of the online working-class, while the working class itself is caught up in the "machinic subjection" (Lazzarato 2012) of the platforms themselves. One way in which a

revolutionary subjectivity is defused is through the creation of alternative subjectivities. The regimenting of individual choices, orientations, and desires through the microtargeting of social media content helps to create the social and political subject appropriate to the current conjunction (Marazzi 2008; Marazzi 2011; Lazzarato 2014). In the Cambridge Analytica case, for example, the use of the "Big Five" personality taxonomy (openness, conscientiousness, extroversion, agreeableness, and neuroticism), for example, gives a veneer of scientific objectivity to the design of microtargeting algorithms (Cadwalladr 2018; Ward 2018, 139), but ends up reinforcing the social relationships most conducive to the survival and expansion of capitalism. As one commentator has written, by using the Big Five taxonomy,

> Cambridge Analytica could say that it was identifying people with low openness to experience and high neuroticism. But the same model, with the exact same predictions for each user, could just as accurately claim to be identifying less educated older Republican men. (Hindman 2018)

The role of "fake news" and filter bubbles (Haim, Graefe, Brosius 2019); Seargeant and Tagg 2019) is essentially to defuse any revolutionary potential, thereby making the *potentia* of the multitude subject to the constraints of *potestas*. That companies such as Facebook present themselves as neutral platforms is an expression of "the dialectic between the 'multitude' of citizens or subjects and the prudence of administrators" (Negri 2000, 188). The unwillingness or inability of Facebook, YouTube, and Twitter, for example, to "administratively" deal with fake news, conspiracy theories, or radical right-wing is a good example of this dialectic. From a political perspective Cambridge Analytica, Facebook, platform and surveillance capital, and Big Data, seek to dissolve the resistance of the multitude while continuing to appropriate its productive power. Coordinate online groups like Anonymous and various right-wing groups associated with 4chan are a by-product of this ambiguity. In *Insurgencies,* Negri argues that

> From the standpoint of the political, the multitude is always objectified. Its name is reduced to a curse: *vulgar*, or worse *Pöbel*. Its strength is expropriated. Nonetheless we cannot do without the *multitudo* in social and political life - this is evident. But how can it be dominated? This is the only question that theoretical philosophy, moral philosophy, and above all political philosophy pose to themselves… The fear of the multitude is the strength of instrumental rationality. (Negri 1999, 325)

The multitude deprived of spirit but still required to vote and to produce, this is the aim of surveillance and of platform capitalism. In the early days of the Internet, capital seemed to have achieved the perfect balance between the

necessary cooperation of labour and the isolation of the individual worker, composition and decomposition at once. But like all aspects of capitalism, a seeming equilibrium only hid a constant state of disequilibrium. The social and political powers unleashed, at least in part, by social media, machine learning, and Big Data, are not insignificant. Already, attention is turning from individual cases – like Cambridge Analytica – to the platforms themselves. In February 2019, the British Digital, Culture, Media and Sport committee recommended that Facebook and other social media companies be subject to greater regulation (DCMS 2019, 89). To head off similar calls for regulation, Google announced the formation of an AI Ethics Council in March 2019 (Lee 2019), though political questions about the composition of the council immediate arose (D'Onfro 2019) and the council was quickly dissolved (Levin 2019). As with the struggle over the length of the working day analyzed by Marx in Chapter 10 of *Capital*, it appears we may be in for a new cycle of struggle on the part of labour and the state to mitigate the worst abuses of capital. The resurgence of far right forces the world over is intimately connected to the activities of social media platforms and the abuse of data by private corporations (DCMS 2019, 50). As the equilibrium of platform capitalism breaks down and the political and social effects become more acute, autonomists like Negri predict regular periods of such struggles, taking the fundamental antagonism between labour and capital one step further.

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