The Limits of Post-Operaist Marxism:

Automation as Elephant in the Room¹

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Introduction

The question concerning Marx and technology is at the centre of contemporary debates on post-capitalism.² Marx's 1857-58 notebooks, known as the *Grundrisse*, and particularly the so-called "Fragment on Machines" in notebook VI, serve as the ultimate point of reference for the post-work imaginaries developed by left-accelerationists like Nick Srnicek and Alex Williams in their book *Inventing the Future*.³ Nearly forty years earlier, the post-operaist philosopher Antonio Negri in *Marx Beyond Marx* likewise returned to the *Grundrisse* in order to liberate Marxist theory from the *Capital*-inspired orthodoxy of Soviet Marxism.⁴ Today, post-operaist thought wields a direct influence on contemporary accelerationism.⁵ Yet at the same time, it is far from clear how Negri's philosophical framework could support the Promethean politics of technology and automation outlined by left-accelerationism.

In *Marx Beyond Marx*, Negri provides an idiosyncratic reading of the *Grundrisse*, casting Marx's project in explicitly political rather than economic terms. He contends that contemporary capitalism functions primarily through a political logic of domination and control rather than an economic logic of exploitation. Capitalism is conceived of as a social system based on antagonistic subjectivities, in which capital dominates the proletariat by imposing labour and surplus labour. Consequently, Negri argues in favour of a "refusal of work" that attempts to undermine this imposition. Through a logic of self-valorization, Negri envisages that labour will be made subordinate to the needs and demands of the working class. This strategy of a refusal of work, however, seems to assume a certain level of reliance on the "automatic system of machinery" that Marx so extensively describes in the "Fragment on

Machines." Yet Negri's lack of engagement with the issue of technological development is revealing and the issue of automation remains the elephant in the room of post-operaist thought: even though a certain form of automation is implicitly presupposed, Negri and other post-operaists hardly ever explicitly discuss the topic. In this article, I suggest that these blind spots of post-operaism can be traced back to Negri's ontological and transhistorical conception of living labour as standing in sharp opposition to dead labour. In order to support this thesis, I will contextualize Negri's argument in his conceptions of post-Fordism, the social factory, and the general intellect. It is important to notice that these concepts invoke each other, since Negri primarily describes the post-Fordist condition in terms of the social factory, and the latter is in turn closely connected to the general intellect and debates concerning the status of automation and machinery.

1. The Genesis of the Social Factory: From Fordism to Post-Fordism

In order to grasp Negri's argument concerning the "social factory" and "general intellect," it is important to contextualize these arguments within the political-economic transformation from Fordism to post-Fordism that occurred in 1970s. The significance of post-Fordism for the topic under investigation can easily be illustrated in reference to the following remark by the post-operaist philosopher Paolo Virno: "Marx's 'Fragment on Machines' from the *Grundrisse*, is a crucial text for the analysis and definition of the post-Fordist mode of production."

Fordism can roughly be defined as a historically specific shape of capitalism based on industrialized and standardized mass production and mass consumption. ¹⁰ The introduction of the assembly line in the labour process caused productivity to rise, which in turn enabled the unionized labour movement to demand higher wages. This translated into rising living standards for the majority of the Western working class and the consolidation of parliamentary mass democracy. ¹¹ The relatively high wage level simultaneously guaranteed the realization of

surplus value in the form of mass consumption, thereby containing capital's inherent tendencies towards crises of underconsumption and overproduction. It is not in the last place for these reasons that capital experienced its "*Trentes Glorieuses*" in the Fordist-Keynesian class compromise.¹²

According to operaist and post-operaist Marxists, the Fordist mode of production is intimately related to a new form of working class subjectivity: the mass worker emerges on the historical scene. Whereas the period leading up to the First World War was characterized by the predominance of professional workers and skilled craft workers, the beginning of the twentieth century witnessed significant changes in the class composition of the proletariat and a corresponding restructuring of capital. It is important to point out that for post-operaists the (re-)composition of the working class is at the same time cause and effect of these restructurings of capital: the capitalist class invents new forms of organization in reaction to labour resistance and the labour movement responds to the restructuring of capital by developing new forms of organization and mobilization.

The transition from the stage of the professional worker to that of the mass worker roughly corresponds to Marx's distinction in the "Results of the Immediate Process of Production" between formal and real subsumption of labour under capital. In general, subsumption designates the degree to which labour is absorbed into capital's process of value extraction through the imposition of wage-labour. Formal subsumption refers to the takeover by capital of an existing labour process, developed by earlier and different modes of production. The professional worker still provides her own tools and sells her products for money. The conversion from formal to real subsumption takes place when the capitalist begins to own these tools and starts to reorganize the labour process to meet the specific needs of capital. Workers are now concentrated in large-scale industries and factories, subject to new forms of social organization and cooperation. Combined with the conscious use and application

of machinery and modern science, these social and technical innovations increase the productive forces of social labour.¹⁸

The Fordist factory can indeed be described in terms of real subsumption of labour under capital. The introduction of Taylorism and the principles of "scientific management" in the labour process went hand in hand with the large-scale spatial concentration of large groups of mass workers into a single factory. However, at the end of the sixties and beginning of the seventies Fordism was already on its last legs. Following the classical operaist idea that it is actually workers' struggle that provides the dynamic of capitalist development, the decline of Fordism is diagnosed in terms of workers who refuse to be treated as mere appendages of the machinery. Furthermore, the student and labour protests at the end of the sixties, the oil crisis of 1973, and the stagflation in the same decade contributed to the instability of the Fordist model. In this way, Fordism made room for what post-operaist theorists call "post-Fordism" or sometimes "cognitive capitalism."

In general, post-Fordism can be understood as a regime of flexible accumulation in which immaterial labour and symbolic forms of production play a crucial role. With post-Fordism, the real subsumption of society under capital has succeeded: society is turned into a "social factory" where, in the words of the early operaist Mario Tronti, "the entire society now functions as a moment of production." Negri extends the concept of subsumption beyond Marx's usage of the term, although it should be noted that Marx is certainly aware of capital's tendency to subsume not only the workplace but society as a whole. The central component of Fordist capitalism—i.e. the factory—deterritorializes, decentralizes, and is diffused through society as a whole. Consequently, the whole society is subordinate to the process of capitalist valorization and "capital constitutes society, capital is entirely social capital." 24

In his chapter "Social Capital & World Market" from *Marx Beyond Marx*, Negri writes the following about the "social factory":

It is a *qualitative leap which permeates the category of capital*. Society appears to us as capital's society. It is through this passage that all social conditions are subsumed by capital, that is, they become part of its "organic composition." And besides the social conditions—which present themselves in their immediacy—capital progressively subsumes all the elements and materials of the process of circulation (money and exchange in the first place, as functions of mediation) and, thereafter, all those pertaining to the process of production, so that herein lies the foundation *for the passage from manufacture to big industry to social factory*.²⁵

A few pages later, Negri describes the following about this passage resulting in society as a factory:

At first, capital assembles labor potentials which are given in society and reorganizes them in manufacture. Big industry, a further stage, represents a productive situation in which social capital has already posited itself as a subject, that is, it has prefigured the conditions of production. The working conditions and the labor process are preordained by the process of valorization: starting from a certain moment—the constitution of capital as "social capital"—it will no longer be possible to distinguish labor from capital, labor from social capital and the process of valorization. Labor is only that which produces capital. Capital is the totality of labor and life. ²⁶

As mentioned before, these transitions correspond to different forms of workers' subjectivity from the professional worker, the mass worker to the socialized worker respectively. The diffuse character of work under post-Fordism concretely results in flexible labour structures with the majority of people working under precarious conditions of part-time and temporary jobs, as the autonomist Marxist Nick Dyer-Witheford notes: "Wage labour is deconcentrated, spatially and temporally dispersed throughout society, and interleaved with unpaid time in new and irregular rhythms." One of the most far-reaching consequences of the socialization of labour under post-Fordism is that the distinction between free time and labour time gradually disappears. Not only are people's social roles as workers fully integrated into the production process, the same holds for people's roles as students or consumers: all social roles are effectively rendered subordinate to the production of profit. Increasingly, the educational system is aimed at "job training" in order to prepare young people for the labour market. The neoliberal projects of the "corporate university" and "life-long learning" are symptomatic of

these developments.²⁸ Even in their free time, employees are expected to be engaged in reallife network meetings and to be active on social media like LinkedIn in order to profile themselves in a thoroughly commodified society. Dyer-Witheford therefore concludes:

The world of the socialised worker is thus one where capital suffuses the entire form of life. To be socialised is to be made productive, and to become a subject is to be made subject to value—not only as an employee but as a parent, shopper and student, as a flexibilised home worker, as an audience in communicative networks, indeed even as a transmitter of genetic information.²⁹

Building on Marx's notion of real subsumption, Negri's idea of the social factory thus broadens the scope of Marxist theory. In contradistinction to the many productivist readings of Marx, which single out only the partial moment of production, the notion of the social factory attempts to theorize the moments of reproduction, circulation, and distribution as important terrains of class struggle in their own right.³⁰ In a world in which capital is ubiquitous, class struggle is likewise omnipresent. Marx himself was well aware of this when he pointed out, at the beginning of the "Fragment on Machines," that "the entire production process and each of its moments, such as circulation—as regards it material side—is only a means of production for capital."³¹ At this point in the argument, the meaning of the title of Negri's book *Marx Beyond Marx* is somewhat clarified. Marx's original insight concerning the real subsumption of society under capital is only realized in contemporary post-Fordist societies: in this sense, we are beyond Marx's analysis, without passing Marx's theoretical tools.

2. The Role and Place of the 'General Intellect'

In the previous section, I highlighted some broad characteristics of the post-Fordist mode of production, yet the most important concept of the post-operaist analysis of post-Fordism was omitted: the role and place of the "general intellect" in this specific phase of capitalism. According to post-operaist theorists, post-Fordism is primarily characterized by the fact that the general intellect has become a large and direct productive force in itself. With the

introduction of machinery, direct human labour becomes less central to the production process, but the role of knowledge, technology, and science becomes all the more important.³² Before turning to the ambivalent status of the general intellect in the post-operaist tradition, it is important to sketch two possible interpretations of general intellect based on the writings of the *Grundrisse*.

In the whole of the "Fragment on the Machines," Marx mentions the notion of general intellect only once. It is worth citing this passage in its entirety:

Nature builds no machines, no locomotives, railways, electric telegraphs, self-acting mules etc. These 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. To what degree the powers of social production have been produced, not only in the form of knowledge, but also as immediate organs of social practice, of the real life process.³³

Over the long term, Marx perceives knowledge to be the most important force of production, thereby causing the repetitive and segmented labour of the Fordist assembly line to fade into the background. The increasing importance of knowledge seems to be directly related to the "automatic system of machinery," i.e., the automation of the production process. This is one of the main arguments of the "Fragment on Machines": the expenditure of direct human labour loses its relevance in an automated production process, yet the knowledge that is objectified in fixed capital, and hence embodied in the automatic system of machinery, only gains in importance. The metaphor that Marx uses to designate this knowledge is suggestive: general intellect. The knowledge that this concept designates is precisely general and social, and is therefore irreducible to the individual consciousness of the worker.

If the general intellect cannot be found in the individual consciousness of the worker, then where can we localize it? This question is still subject to debate, not least because Marx himself is quite ambivalent in this regard. A possible and intuitively plausible interpretation situates the general intellect in the collective consciousness of the working class, since it collectively possesses the knowledge and science that is necessary to keep the machinery working.³⁴ The skills and knowledge of the workers are incorporated by capital through their objectification in fixed capital like machinery. Paradoxically, the social labour provided by the working class appears to the workers not as their own labour but as objectified labour in fixed capital:

The productive force of society is measured in *fixed capital*, exists there in its objective form; and, inversely, the productive force of capital grows with this general progress, which capital appropriates free of charge [...] In machinery, knowledge appears as alien, external to him; and living labour [as] subsumed under self-activating objectified labour.³⁵

Under conditions of capitalist production, the socialization of labour and the emergence of the general intellect therefore constitute a specific form of alienation.

A second interpretation takes the general intellect to be materialized in the machinery itself. This reading makes sense if we consider Marx's reference to Goethe's *Faust* in the "Fragment": "What was the living worker's activity becomes the activity of the machine. Thus the appropriation of labour by capital confronts the worker in a coarsely sensuous form; capital absorbs labour into itself—'as though its body were by love possessed' ['als hätt' es Lieb im Leibe'—Goethe, *Faust*, Pt. 1, Act 5]."³⁶ This particular formulation—"as though its body were by love possessed"—suggests that the intellect, which is usually considered to be a human attribute, is objectified and materialized in the machinery itself. Marx seems to anticipate certain ideas of what subsequently became known as post-humanism, a movement that is particularly dominant on the contemporary philosophical scene. ³⁷ On this second reading, Marx appears to identify general intellect primarily with fixed capital, i.e., the scientific and technical knowledge that is objectified in the automatic system of machinery. The development of fixed

capital serves as an indicator for the extent to which general social knowledge has become a direct force of production.³⁸

Most post-operaist theorists, however, would probably argue that this second interpretation omits an essential aspect of general intellect: the way in which general intellect manifests itself as *living* labour.³⁹ This emphasis on the living aspect of labour is characteristic of the post-operaist tradition in general. In *Multitude*, Negri and Hardt describe living labour as "the form-giving fire of our capacities":

Living labor is the fundamental human faculty: the ability to engage the world actively and create social life. Living labor can be corralled by capital and pared down to the labor power that is bought and sold and that produces commodities and capital, but living labor always exceeds that.⁴⁰

Although Marx refers only once to labour as the "form-giving fire" in the *Grundrisse*,⁴¹ the insistent characterization of labour as "form-giving fire" by Negri and Hardt is particularly suggestive in this regard. Vitalist philosophers tend to make use of metaphors like fire and sparks when they write about the concept of life, and these specific formulations therefore indicate an almost "*Lebensphilosophisch*" (philosophy of life), or vitalistic anthropology of labour.

If living labour is indeed "the fundamental human faculty," it is difficult to imagine that it will lose its relevance with the introduction of machinery and processes of automation. Quite the contrary, Virno argues that the relationship between knowledge and production becomes all the more important by virtue of the "linguistic co-operation of men and women through their concrete acting in concert." In the post-operaist conception of post-Fordism as put forward by Paolo Virno, "conceptual constellations" and "logical schemata" play a significant role. It is important to notice that this role cannot be reduced to fixed capital, since these forms of knowledge are not independent from the interaction and plurality of living subjects. Within the post-operaist tradition, living labour therefore has primacy over dead labour, fixed capital, and machinery.

Accordingly, Virno comes up with the following definition of general intellect: "The 'general intellect' comprises formal and informal knowledge, imagination, ethical inclinations, mentalities and 'language-games." General characteristics of living labour and human consciousness such as the capacity for language, the disposition to learn, and the capacity for self-reflexivity have become productive means and operate themselves as "productive machines." This also implies that class struggle is more diffuse and becomes partly displaced, which is a recurrent dynamic of operaism: "The matrix of conflict and the condition for small and great 'disorders under the sky' is to be found precisely in this progressive rupture between general intellect and fixed capital, taking place through the partial redistribution of the former within living labour." In order to denote the complex whole of living labour under post-Fordist conditions, Virno coins the term "mass intellectuality." This form of intellectuality, which does not limit itself to specialist scientific knowledge, functions as "the depository of cognitive competencies that cannot be objectified in machinery." This formulation again suggests that for Virno the general intellect primarily resides in the collective consciousness of the working class rather than being materialized in the machinery itself.

3. Political & Strategic Implications of Post-Operaism

The post-operaist conception of the general intellect's subversive and emancipatory potential has significant political and strategic implications. In order for contemporary machinery and technology to operate adequately, capital depends on the aforementioned cognitive depository of living labour forces. Recall that in post-Fordism, immaterial labour and general intellect are central to the production of ideas, information, images, knowledge, and affects. This domain—referred to by Hardt and Negri as the "common"—has the peculiar characteristic that the items can be freely shared and reproduced, thereby escaping the logic of scarcity to which material goods are subject. The more the commons are appropriated by capital and private property, the

less productive use can be made of those commons. In order to realize their maximum productivity, the commons must be shared.⁵⁰ The effective mobilization of these commons can therefore have potentially subversive and emancipatory effects. In *The Politics of Subversion*, Negri similarly argues that forms of knowledge are fundamentally socialized and cooperative and are hence in a position to challenge the hegemony of capital. The "intellectual cooperation" and "technoscientific literacy" of the modern proletariat can be transformed into an oppositional political project against capital.⁵¹ The logic of immaterial labour and information technology therefore has the potential to transcend capitalism.

For the same reasons, Virno and Carlo Vercellone argue that today we witness a reversal of the historical transition from formal subsumption to real subsumption. Under conditions of post-Fordism, labour is again formally subsumed under capital, since the knowledge and skills of general intellect can never be fully controlled and appropriated by capital. ⁵² Capital might again seek refuge in the oppressive mechanisms usually associated with formal subsumption, but the possibilities of resistance likewise increase according to Vercellone: "We could define communism as the real movement by means of which the society of knowledge would liberate itself effectively from the capitalist logic that subsumes it, freeing the potential of emancipation inscribed in an economy founded on the free circulation of knowledge and the democracy of the general intellect."⁵³

Notwithstanding the importance of these forms of resistance against capital, this argument actually serves to reinforce my initial argument that post-operaist theorists mainly identify subversive possibilities to undermine capitalism with the capacities of general intellect, which in turn are directly associated with living labour. This leads post-operaists to downplay from the start the emancipatory potential of automation and machinery, the reasons for which can perhaps be more clearly articulated in light of Negri's strategical plea for a "refusal of work." Strategy of a refusal of work has clear historical precedents. In 1883 Paul

Lafargue—married to Laura Marx and hence Marx's son-in-law—wrote an essay titled "The Right to be Lazy." In this essay, Lafargue fulminates against "the right to work" discourse that was common in proletarian circles at the end of the nineteenth century and still remains quite current today. The struggle for full employment only serves to affirm the capitalist work ethic, whereas Lafargue argues that this work ethic must be contested. "The Right to be Lazy" is therefore not merely a critique of the "productivist metaphysics" of capital, for it simultaneously praises the virtuous character of laziness ("O, Laziness, mother of the arts and the noble virtues"). 55

Although it seems unlikely that Marx shared this vision with his son-in-law, there are multiple indications in Marx's work that refer to a liberation from work. In the "Fragment on Machines," Marx clarifies that socially available free time is an important component of his conception of communism:

The free development of individualities, and hence not the reduction of necessary labour time so as to posit surplus labour, but rather the general reduction of the necessary labour of society to a minimum, which then corresponds to the artistic, scientific etc. development of the individuals in the time set free, and with the means created, for all of them. Capital itself is the moving contradiction, [in] that it presses to reduce labour time to a minimum, while it posits labour time, on the other side, as sole measure and source of wealth. Hence it diminishes labour time in the necessary form so as to increase it in the superfluous form; hence posits the superfluous in growing measure as a condition—question of life or death—for the necessary. [...] 'Truly wealthy a nation, when the working day is 6 rather than 12 hours. Wealth is not command over surplus labour time' (real wealth), 'but rather, disposable time outside that needed in direct production, for every individual and the whole society.' (The Source and Remedy etc. 1821, p. 6.).⁵⁶

Subsequently, the political struggle for a liberation from work was revitalized in the context of post-operaist Marxist theory in the 1960s and 70s. The elementary idea behind the practice of a refusal of work is rather straightforward, given that post-operaist theorists conceptualize capitalism as a social formation primarily characterized by the imposition of labour and the subordination of free time under labour time.⁵⁷ Every attempt to transcend the reality of capitalism therefore requires a substantial transformation in the organization and social

valuation of work. In contradiction to humanist Marxists, who argue that alienated labour must be "liberated" in order to realize the essence of labour, Negri argues in favour of a liberation from work as such.⁵⁸ And as opposed to the demands for full employment that were common in the Italian trade unions, Negri shows that a radical reduction of labour is necessary and desirable, both in a quantitative (labour hours) and qualitative (the social valuation of labour) sense.

The practice of a refusal of work therefore contains a negative as well as a positive moment. On the one hand, the refusal of work is a form of resistance against the current system of work and the corresponding capitalist work ethic. The system of wage labour is a significant structural mechanism through which capital guarantees its accumulation, and precisely for this reason does the refusal of work pose a significant threat to the capitalist mode of production. On the other hand, however, the strategy of refusal of work should also be understood as a positive project, since it constitutes a creative practice of self-valorization that attempts to breach the logic of existing forms of production and reproduction. The refusal of work creates available free time and opens up space to develop alternatives to the capitalist system of value. The practice of refusal of work is therefore closely linked to Negri's conception of communism. It is useful to cite this passage from *Marx Beyond Marx* at large:

Communism is only reversal of work in so far as *this reversal is suppression: of work*. Liberation of the productive forces: certainly, but as a dynamic of a process which leads to abolition, to negation in the most total form. *Turning from the liberation-from-work toward the going-beyond-of-work forms the center, the heart of the definition of communism*. We must not be afraid to insist on this theoretical moment: the liberation of living labor exalts its creative power, *the abolition of work is what gives it life in every moment*. The content, the program of communism are a development of universal needs which have emerged on the collective but miserable basis of the organization of waged work, but which in a revolutionary way signify the abolition of work, its definitive death.⁶¹

This fragment is particularly remarkable, given that Negri briefly touches upon the liberation of the productive forces ("certainly!") but rather quickly switches again to a register celebrating

the creative power of living labour forces. The phrase "certainly, but..." reveals a great deal in this regard, for it points to a certain under-theorization of the technological issues at stake in a strategy of refusal of work. Negri's refusal to engage with the emancipatory potential of the productive forces is remarkable in light of his plea for a refusal of work. How do we guarantee that people's material needs are met if we simply refuse to work, and how do we arrange the social and material reproduction of a communist society? Whereas the refusal of work seems to presuppose at least a certain extent of technological development and automation, Negri does not explicitly address questions of technology and automation. Automation therefore seems to be the elephant in the room of post-operaist philosophy.

4. The Limits of Post-Operaist Marxism

At this point it becomes possible to shine a light on this peculiar elephant. In the remainder of this article, I attempt to explain and contextualize the theoretical and political limits of the post-operaist tradition within Negri's political and subjectivist approach to Marxism, his ontological and transhistorical conception of labour, and his criticism of dialectical methodology. Regri's blind spot for processes of automation can be traced back to his explicitly *political* theory of Marxism that tries to render the social categories of orthodox Marxism more appropriate to revolutionary political subjectivity and praxis. Negri's reading of Marx is political in nature in the sense that it translates economic class-relations directly into political relations of domination, for it is capital that dominates the working class through the imposition of surplus labour. Accordingly, analyses of capitalist exploitation need to be complemented with analyses that focus on a logic of domination rather than exploitation. The working class is not just a soulless victim of capital's spells because it is primarily defined by its antagonistic relation to capital and not by its productive function. Negri therefore stresses the theoretical primacy of the *Grundrisse* over *Capital* and argues that the former is not merely preparatory work towards

Capital: the Grundrisse contains the key to an autonomous political theory of class struggle, subjectivity and revolution, and hence serves to counter what Negri considers the "blind objectivism of a certain Marxist tradition."

Negri's emphasis on workers' subjectivity and agency, as opposed to more economistic and objectivist capital-oriented approaches to Marx, must therefore be understood in the historical context of the publication of *Marx Beyond Marx*, which is based on a series of lectures that Negri gave in Paris in 1978 on an invitation by Louis Althusser. Whereas the post-operaist Marxism of Negri might be termed subjectivist, with its focus on subjective human forces that seek to subvert the logic of capital, the work of Althusser might be described as an objectivist approach to Marx's theory. According to Althusser's structuralist reading of Marxism, the mature Marx was concerned with an analysis of the capitalist mode of production that focuses primarily on the deep structures of capitalism and reduces—if not eliminates—the role of agency. Capitalist social phenomena are explained in reference to an objective structure or social totality that lies beyond the control of the subject. Negri's book can therefore be seen as a response to this particular context and as an alternative to Althusser's structural Marxism.

Negri's subjectivist approach to Marx, however, leads him to focus solely on class domination at the cost of more subtle forms of abstract domination as theorized by value-form theorists. If capitalism is conceptualized as a social system based on antagonistic subjectivities in which the capitalist class dominates the working class through the imposition of labour, then the historical specificity of the capitalist mode of production is obscured. Whereas non-capitalist modes of production rest upon a relationship of personal domination and dependency, such a personal relationship of force does not exist as a rule in capitalist societies.⁶⁷ In the first volume of *Capital*, Marx describes capitalism as "a very Eden of the innate rights of man. It is the exclusive realm of Freedom, Equality, Property and Bentham." Although this depiction is obviously not without irony, it is nonetheless true that Negri's account of capitalism in terms

of class domination fails to grasp the subtle forms of domination inscribed in the elemental social forms and underlying structure of capitalist production.

In order to understand these subtle forms of domination—neglected by Negri due to his strong emphasis on personalized class domination—it is useful to turn to the value-form analysis developed by representatives of the so-called "Neue-Marx Lektüre" ("New Reading of Marx"). In the section of Capital on "The Fetishism of the Commodity and its Secret," Marx famously observes that in capitalism "the social relations between private labours appear as what they are, i.e., they do not appear as direct social relations between persons in their work, but rather as material [dinglich] relations between persons and social relations between things."⁶⁹ The object-mediated character of social relations in capitalism leads actors involved in commodity exchange to think of value as a natural property intrinsic to things. The very activity of the exchangers assumes "the form of a movement made by things, which far from being under their control, in fact control them."⁷¹ Due to its thing-like, reified character the commodity seems to acquire a life of its own, independent of and external to the social practices that actually constitute its value. The form of domination hinted at in this passage is not concretely embodied in a particular class; rather, it refers to a structural and impersonal form of abstract domination. As Moishe Postone notes:

Within the framework of Marx's analysis, the form of social domination that characterizes capitalism is not ultimately a function of private property, of the ownership by the capitalists of the surplus product and the means of production; rather, it is grounded in the value form of wealth itself, a form of social wealth that confronts living labor (the workers) as a structurally alien and dominant power.⁷³

The political reading of Marx proposed by Negri cannot accommodate for these forms of abstract domination, since Negri focuses primarily on the subjective forces of living labour rather than the immanent and objective material limits to capital accumulation.

Relatedly, the political or subjectivist approach to Marx's theory leads Negri to a particular conception of labour and class struggle. Whereas Negri rightfully draws attention to

the way in which traditional Marxism tends to "annihilate subjectivity in objectivity,"⁷⁴ Negri seems to commit a similar one-sided mistake when he ontologizes labour as an independent reality wherein every feature of objectivity is lost.⁷⁵ The fact that Negri describes living labour as the "fundamental human faculty" illustrates that he operates with a conception of labour that is transhistorical. Even other autonomist Marxists like Harry Cleaver—otherwise sympathetic to Negri's overall project—have noticed Negri's inclination to make the category of labour into a transhistorical and ontological reality.⁷⁶

In his book *Time, Labor, and Social Domination*, Moishe Postone takes issue with this transhistorical conception of labour. According to Postone, the category of labour in Marx's mature writings refers to a historically specific rather than a transhistorical or ontological reality.⁷⁷ In contradistinction to the way in which Marx has traditionally been understood by Marxists and critics of Marx alike, labour is not simply a goal-directed social activity that mediates between human beings and nature; rather, labour refers to a socially mediating activity that uniquely belongs to the capitalist mode of production.⁷⁸ This argument is essentially rooted in the ideological mechanism of naturalization described in Marx's theory of fetishism: if social relations in capitalism appear as relations between things, it is no wonder that those relations are seen to be transhistorical.⁷⁹ Similarly, whereas labour appears as a transhistorical and ontological category valid for all social formations, Marx shows that it is essentially a historically specific category intimately tied up with value as a form of wealth specific to capitalism.⁸⁰

Negri's transhistorical conceptualization of living labour has real consequences for the role of machinery in his politics. If the labour performed by the proletariat is portrayed as the "form-giving fire" of our creative capacities, it follows that the potentially subversive elements of the automatic system of machinery are less central to post-operaist politics. Class struggle is exclusively conceptualized as a struggle between living labour and dead labour, hence

excluding from the start the subversive potentiality embedded in dead labour and the possibility of an emancipatory politics of technology. In Negri's thought, there exists a clear theoretical and political primacy of living labour over dead labour; hence machinery can only be antithetical to living labour.

However, in the *Grundrisse* Marx is very clear that this need not be the case in a communist future:

It requires no great penetration to grasp that, where e.g. free labour or wage labour arising out of the dissolution of bondage is the point of departure, there machines can only *arise* in antithesis to living labour, as property alien to it, and as power hostile to it; i.e. that they must confront it as capital. But it is just as easy to perceive that machines will not cease to be agencies of social production when they become e.g. property of the associated workers. In the first case, however, their distribution, i.e. that they *do not belong* to the worker, is just as much a condition of the mode of production founded on wage labour. In the second case the changed distribution would start from a *changed* foundation of production, a new foundation first created by the process of history.⁸¹

Given his vitalistic conception of living labour, Negri does not and cannot consider the possibility of the use of machinery in a communist future. In *Marx Beyond Marx*, Negri never mentions the question of automation explicitly except for the passages in which he discusses Marx's "Fragment on Machines." Negri's commentary is telling in this regard, for he assumes that Marx's passages speak for themselves and need no further elaboration: "To simply comment on these quoted pages would necessitate going over everything we have said already; it's not worth the trouble." Negri thus assumes that his own analysis culminates in Marx's "Fragment on Machines," and more significantly, this enables him to avoid the precarious and intricate question of automation.

In this implicit polemic with Althusser, Negri highlights the salience of living subjectivity, thereby causing the theme of automation to disappear to the background. The influence of Michel Foucault on Negri is also clearly visible here. Following Foucault's post-structuralism, Negri emphasizes radical contingency instead of law-like necessity and a logic of antagonism rather than dialectical methodology.⁸³ However, a recognition of the subversive

and immanent potential of automation and technological advancement can easily be associated with certain forms of positivism and a developmental logic. It is indeed hard to deny that Marx's "Fragment on Machines" contains a determinate developmental logic, wherein the productive forces—in the form of machinery—develop rapidly in capitalism. In the "Fragment," Marx even suggests that the material conditions "to blow this foundation sky-high" are already satisfied, given the potential large-scale reduction in labour time due to the introduction of the automatic system of machinery. For Negri, however, the antagonistic and discontinuous struggle inherent in living labour has theoretical primacy over the technological advancement embodied in the development of machinery. Negri's emphasis on contingency rather than necessity, and his insistence on antagonism rather than dialectics, leaves him unable to follow Marx on this path.

The incorporation of diffuse and contingent elements in Negri's theory thus appears to be inconsistent, given his simultaneous commitment to the "crisis theory of collapse" implicit in Marx's "Fragment on Machines." Recall that in the "Fragment," Marx argues that the capitalist mode of production based on exchange collapses as a result of a rising organic composition of capital, i.e., the share of constant capital in the total capital increases at the expense of the share of variable capital. This theory of collapse implies a certain developmental tendency because it assumes that capitalism, at least in the long run, will break down under the weight of its internal contradictions, irrespective of historical contingencies. This might be thought problematic in its own regard, but it is particularly dubious in light of Negri's emphasis on contingency, agency, and class struggle. One might defend Negri by arguing that this inconsistency can be traced back to the *Grundrisse* itself, but this would only transpose the problem and give rise to another inconsistency, for it is Negri who repeatedly emphasizes the open and discontinuous character of the *Grundrisse*. Negri therefore seems to

face the dilemma of either giving up on the methodological primacy of the *Grundrisse*, or committing himself to a certain form of developmental, if not teleological thought.

One could argue that Negri presents a vitalistic ontology of living labour rather than a dialectical theory of internal contradictions. He is first and foremost concerned with the immanent forces and powers of living labour from which certain forms of capital arise. The contradictions of capitalism should not be localized in an internal dialectic of dead labour or capital, but in the conflict between the immanent subversive potential of living labour on the one hand and dead labour on the other hand. The strict dichotomy between living labour and dead labour, however, leads Negri to underestimate the role of technology and automation in the revitalization of Marxist discourse and political strategy.

Conclusion

Negri's subjectivist approach to Marx and his ontological understanding of labour structurally inhibits an engagement with the emancipatory potential of a communist politics of technology. Although Negri is clearly committed to a liberation from work, equating communism with the suppression of work, he cannot deliver on its promises due to his theoretical framework. A central premise of post-operaist thought—in line with Negri's particular conception of labour and class struggle—is the idea that the working class is external to capital. It is in this sense that post-operaists argue that the limits of capital are not so much constituted by objectivist material conditions as by the subversive possibilities of living labour itself. The subjectivism of this political reading, however, fails to grasp the subtler forms of abstract domination involved in capitalist society.

Moreover, considering the abstract forms of domination implicit in the value-form, one could pose the question of the extent to which the working class really is external to capital. From a value-form perspective, one could argue that the class struggle between living and dead

labour remains immanent to the capitalist system, for it still moves within the categories of capitalism. Accordingly, the political implications that flow from Negri's analysis of class domination do not and cannot lead to the desired liberation from work, because it leaves the value-form—and hence the proletarian labour that constitutes it—effectively untouched. Combined with Negri's ontological and transhistorical conception of labour, Negri ends up affirming one of the poles of class struggle, thereby failing to see that the capital-labour relation as such is constitutive of modern capitalism. Negri's post-operaist politics is therefore confronted with the Sisyphean task of abolishing a relation by affirming one of its poles. Despite all Negri's attempts to distance himself from traditional forms of Marxism, he similarly ends up affirming rather than negating value, labour, and class.

The liberation from work requires the transcendence of value as a specific form of capitalist wealth based on labour time. Only in this way it is possible to achieve Marx's idea of communism as described in the *Grundrisse*: "Real wealth is the developed productive power of all individuals. The measure of wealth is then not any longer, in any way, labour time, but rather disposable time." In order to achieve this, it is necessary to consider the emancipatory potential of dead labour or machinery, which is something that Negri's theory excludes from the start. After all, the automatic system of machinery is the material condition for a truly emancipated society, in which re-appropriated free time serves to facilitate the free and rich development of individualities.

Notes

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¹ This article is based on my undergraduate thesis titled "Labour, Automation, and Communism in Marxist Theory: On Negri's Interpretation of Marx's 'Fragment on Machines,'" written under the supervision of Dr. Johan Frederik Hartle. I want to thank Johan for his excellent supervision and his continuous support, as well as Dr. Roberto Nigro for his insightful answers to my questions.

² See for instance: P. Mason, *Postcapitalism: A Guide to Our Future* (London: Penguin Books, 2015); N. Srnicek & A. Williams, *Inventing the Future: Postcapitalism and a World Without Work* (London: Verso Books, 2015); P. Frase, *Four Futures: Life After Capitalism* (London: Verso Books, 2016); A. Bastani, *Fully Automated Luxury Communism: A Manifesto* (London: Verso Books, 2019); A. Benanav, "Automation and the Future of Work—I," *New Left Review* 119, no. 4 (2019): 5-38.

- ⁶ This political reading of Marx can be traced back to Mario Tronti, an early theorist of *operaism*. In his 1964 essay titled "A New Type of Political Experiment: Lenin in England," Tronti writes that the working class viewpoint always seeks a political explanation: "We too saw capitalist development first and workers second. This is a mistake. Now we have to turn the problem on its head, change orientation, and start again from first principles, which means focusing on the struggle of the working class. At the level of socially developed capital, capitalist development is subordinate to working-class struggles; not only does it come after them, but it must make the political mechanism of capitalist production respond to them." See M. Tronti, *Workers and Capital* (London: Verso Books, 2019), 175.
- ⁷ H. Cleaver, "Introduction," in Negri, A. *Marx Beyond Marx: Lessons on the Grundrisse* (New York: Autonomedia, 1991), xxvii.
- ⁸ K. Marx, *Grundrisse. Foundations of the Critique of Political* Economy, trans. M. Nicolaus, (London: Penguin Books, 1973), 692.
- ⁹ P. Virno, "General Intellect," *Historical Materialism* 15 (2007): 3.
- ¹⁰ C. Vercellone, "From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism," *Historical Materialism* 15 (2007): 427.
- ¹¹ D. Harvey, *The Condition of Postmodernity. An Enquiry into the Origins of Cultural Change* (Cambridge, MA: Blackwell Publishers, 1990), 129.
- ¹² Harvey, *The Condition of Postmodernity*, 124; N. Dyer-Witheford, *Cyber-Marx: Cycles and Circuits of Struggle in High-Technology Capitalism* (Champaign, IL: University of Illinois Press, 1999), 56.
- ¹³ Dyer-Witheford, *Cyber-Marx*, 73-74. For an overview of the differences between operaism and post-operaism, see S. Wright, *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism* (London: Pluto Press, 2017) & D. Broder, "The Rise and Fall of Italian Workerism," *Catalyst* 3, no. 4 (2020), https://catalyst-journal.com/vol3/no4/the-autumn-and-fall-of-italian-workerism#ch-1.

³ Srnicek & Williams, *Inventing the Future*.

⁴ A. Negri, Marx Beyond Marx: Lessons on the Grundrisse (New York: Autonomedia, 1991).

⁵ F.H. Pitts, "Beyond the Fragment: Postoperaismo, Postcapitalism and Marx's 'Notes on Machines,' 45 years on," *Economy and Society* 46, no. 3-4 (2017): 325.

¹⁴ Dyer-Witheford, 66.

¹⁵ The "Results of the Immediate Production Process" are part of a draft version of *Capital* that Marx eventually dropped. In the English Penguin edition of *Capital* volume 1, the "Results" are added as an appendix; see K. Marx, *Capital. A Critique of Political Economy. Volume One* (London: Penguin Books, 1976), 948-1084.

¹⁶ Marx, Capital, Volume One, 1021.

¹⁷ A. E. Wendling, Karl Marx on Technology and Alienation (Omaha: Creighton University Press, 2009), 32.

¹⁸ Marx, Capital, Volume One, 1024.

¹⁹ Vercellone, "From Formal Subsumption to General Intellect," 27.

²⁰ Harvey, 140.

²¹ Virno, "General Intellect," 3; Vercellone, 14. For a comprehensive critique of the concepts of post-Fordism and immaterial labour, see S. Amin, "Contra Hardt and Negri. Multitude or Generalized Proletarianization?" *Monthly Review* 66, no.6 (2014).

²² Tronti, Workers and Capital, 44.

- ²³ Marx, Capital, Volume One, 1024.
- ²⁴ Negri, Marx Beyond Marx, 114.
- ²⁵ Negri, *Marx Beyond Marx*, 114; emphasis in original.
- ²⁶ Negri, Marx Beyond Marx, 121-122.
- ²⁷ Dyer-Witheford, 80.
- ²⁸ Dyer-Witheford, 80.
- ²⁹ Dyer-Witheford, 81.
- ³⁰ Negri, Marx Beyond Marx, 106 & 133; Dyer-Witheford, 81.
- ³¹ Marx, *Grundrisse*, 690.
- ³² T. Smith, "The 'General Intellect' in the *Grundrisse* and Beyond," in *Marx's Laboratory: Critical Interpretations of the* Grundrisse, eds. R. Bellofiore, G. Starosta, & P. D. Thomas (Leiden: Brill, 2013), 218.
- ³³ Marx, *Grundrisse*, 706, emphasis in original.
- ³⁴ Marx, *Grundrisse*, 693.
- ³⁵ Marx. *Grundrisse*, 694-695.
- ³⁶ Marx, Grundrisse, 704.
- ³⁷ To a certain extent, post-humanist ideas concerning experimentation with modern technology and the rejection of the idea that there exist inevitable natural obstacles to human development can be traced back to Marx already, cf. D. Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century," in D. Haraway, *Simians, Cyborgs, and Women. The Reinvention of Nature* (New York: Routledge, 1991).
- ³⁸ Marx, Grundrisse, 706.
- ³⁹ Virno, 5.
- ⁴⁰ M. Hardt & A. Negri, *Multitude: War and Democracy in the Age of Empire* (New York: The Penguin Press, 2004), 146.
- ⁴¹ Marx, Grundrisse, 361.
- ⁴² Virno, 5.
- ⁴³ Virno, 5.
- ⁴⁴ Virno, 5.
- ⁴⁵ Virno, 5-6.
- ⁴⁶ Virno, 5.
- ⁴⁷ Virno, 5-6.
- ⁴⁸ Virno, 6.
- ⁴⁹ Virno, 6.

- ⁵⁰ M. Hardt, "The Common in Communism," *Rethinking Marxism* 22, no.3 (2010): 346.
- ⁵¹ A. Negri, *The Politics of Subversion: A Manifesto for the Twenty First Century* (Cambridge: Polity, 1989), 137; Dyer-Witheford, 86.
- ⁵² Smith, 219.
- ⁵³ Vercellone, 35.
- ⁵⁴ Negri, Marx Beyond Marx, 167ff.
- ⁵⁵ P. Lafargue, *The Right to be Lazy* (1883; Lafargue Internet Archive, marxists.org, 2000), chapter IV, https://www.marxists.org/archive/lafargue/1883/lazy/.
- ⁵⁶ Marx, *Grundrisse*, 706. In contradistinction to Lafargue, Marx does not consider the available free time under communism as idle time; rather, free time has an emancipatory function and must be dedicated to intellectual, artistic, and scientific development. Similar remarks can be found in the third volume of *Capital*: "The true realm of freedom, the development of human powers as an end in itself, begins beyond it [the realm of necessity], though it can only flourish with this realm of necessity as its basis. The reduction of the working day is its basic prerequisite." See K. Marx, *Capital*. *A Critique of Political Economy. Volume 3*, trans. D. Fernbach (London: Penguin Books, 1981), 959.
- ⁵⁷ K. Weeks, *The Problem with Work: Feminism, Marxism, Antiwork Politics and Postwork Imaginaries* (London: Duke University Press, 2011), 96.
- ⁵⁸ Negri, Marx Beyond Marx, 160.
- ⁵⁹ Weeks, 99.
- 60 Negri, Marx Beyond Marx, 166-167.
- ⁶¹ Negri, Marx Beyond Marx, 160, emphasis in original.
- 62 I want to thank Johan Hartle for the instructive and insightful conversations I had with him regarding this point in the argument.
- ⁶³ In a collection of essays titled *Revolution Retrieved*, Negri even goes as far as to suggest that "profit and wage continue to exist, but they exist only as quantities regulated by a relation of power [...] If anything, the marketing of labour-power today has become a totally political operation." See A. Negri, *Revolution Retrieved:* Writings on Marx, Keynes, Capitalist Crisis and New Social Subjects (London: Red Notes, 1988), 224-225.
- ⁶⁴ Negri, *Marx Beyond Marx*, 13. Cf. Negri's remark that "the *Grundrisse* is an essentially open work [...] the categories are not flattened out, the imagination does not stagnate. [...] There is no linear continuity, but only a plurality of points of view," Negri, *Marx Beyond Marx*, 12-13.
- ⁶⁵ The distinction between subjectivist and objectivist approaches to Marx's philosophical contribution can be found in P. Hudis, *Marx's Concept of the Alternative to Capitalism* (Leiden: Brill, 2012), 9ff.
- ⁶⁶ See L. Althusser & E. Balibar, *Reading Capital* (London: Verso Books, 2009).
- ⁶⁷ M. Heinrich, *An Introduction to the Three Volumes of Marx's* Capital (New York: Monthly Review Press, 2012), 15.
- ⁶⁸ Marx, Capital, Volume One, 280.
- ⁶⁹ Marx, Capital, Volume One, 166.
- ⁷⁰ Marx, Capital, Volume One, 164-165.
- ⁷¹ Marx, Capital, Volume One, 167-168. Similar remarks can be found in the Grundrisse; see, for example, 831.

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⁷² This form of abstract domination is structured in social practices of exchange and is impersonal because it happens behind the backs of conscious individuals: "By equating their different products to each other in exchange as values, they equate their different kinds of labour as human labour. They do this without being aware of it." Marx, *Capital*, *Volume One*, 166-167. Fundamentally, this form of structural rather than personal domination is what distinguishes non-capitalist social formations from capitalist social formations according to Marx; see Marx, *Capital*, *Volume One*, 170.

⁷³ M. Postone, *Time, Labor, and Social Domination* (Cambridge: Cambridge University Press, 2003), 30. Moreover, the objectivity of the value-form is considered to be a "self-evident and nature-imposed necessity" and it is for this reason that the commodity and the value-form "already possess the fixed quality of natural forms of social life." Marx, *Capital*, *Volume One*, 175; 168. The naturalization, and hence eternalization and depoliticization, of the commodity-form and value-form therefore leaves the relations and practices of abstract domination in capitalism effectively unnoticed and untouched. See J. F. Hartle, "Reification as Structural Depoliticization: The Political Ontology of Lukács and Debord," in *The Spell of Capital: Reification and Spectacle*, eds. J.F. Hartle & S. Gandesha (Amsterdam: Amsterdam University Press, 2016), 27.

⁷⁶ Harry Cleaver writes the following about Negri's conception of living labour in relation to the concept of self-valorization: "In Negri this notion of self-valorization was more closely tied to Marx's concept of 'living labor' than I think it should be. Although Toni's formulation of concepts to denote the phenomena associated with self-valorization evolved—under the influence of Deleuze's and his own reading of Spinoza and the distinction between *potere* and *Potenza*—from *self-valorization* to *constitution* (*potere constituante* or the 'power of constitution'), this self-determining, self-constituting power is still largely conceived in terms of living labor. This conception involves what I view as a reductionist understanding in which all 'purposive' human activity is collapsed into the category of 'labor,' instead of the concept of labor being used, as I think it is in Marx, to denote only one particular kind of human activity." Henry Cleaver, "Self-Valorization in Mariarosa Dalla Costa's *Women and the Subversion of the Community*," (1971), accessed July 10, 2020, https://la.utexas.edu/users/hcleaver/357k/HMCDallaCostaSelfvalorization2.htm.

onto Marx's own distinction between a transhistorical and a historically specific conception of labour appears to map neatly onto Marx's own distinction between abstract and concrete labour, but the Soviet economist Isaak Illich Rubin explains clearly that this is not the case and that abstract labour should be understood as a historically specific category as well: "One of two things is possible: if abstract labor is an expenditure of human energy in physiological form, then value also has a reified-material character. Or value is a social phenomenon, and then abstract labor must also be understood as a social phenomenon connected with a determined social form of production. It is not possible to reconcile a physiological concept of abstract labor with the historical character of the value which it creates. [...] There can only be one way out of these difficulties: since the concept of value has a social and historical character in Marx's work [...], then we must construct the concept of the abstract labor which creates value on the same basis." I.I. Rubin, *Essays on Marx's Theory of Value* (New York: Black Rose Books, 1990), 135. Similarly, in his dissertation, Mark Gawne writes about the way in which "postworkerist thought entwines a Spinozist ontology of affect with the category of labour." M. Gawne, "Ontology, Composition & Affect: The Political Limits of Postworkerist Thought" (PhD diss., University of Sydney, 2014), i,

https://www.academia.edu/12621359/Ontology_Composition_and_Affect_the_political_limits_of_postworkerist thought.

⁷⁴ Negri, *Marx Beyond Marx*, 19.

⁷⁵ R. Bellofiore & M. Tomba, "Afterword to the Italian Edition," in S. Wright, *Storming Heaven: Class Composition and Struggle in Italian Autonomist Marxism* (London: Pluto Press, 2017), 240.

⁷⁷ Postone, *Time, Labor, and Social Domination*, 4.

⁷⁸ Postone, 56. Precisely for this reason, it is important to keep in mind that Marx is engaged in a *critique* of political economy rather than developing an alternative Marxist political economy to bourgeois political economy.

⁷⁹ Postone, 146.

⁸¹ Marx, *Grundrisse*, 832-833; emphasis in original. For an insightful account of Marx's vision of technology in a communist society, see Wendling, *Karl Marx on Technology and Alienation*.

⁸² Negri, Marx Beyond Marx, 141.

⁸³ Foucault's rejection of dialectical methodology is especially clear in his "Preface to Transgression," in which Foucault argues that certain experiences cannot be grasped in dialectical terms. The experience of transgression discloses a sense of limitlessness, and hence does not contain the moment of negativity that is necessary in a dialectical structure. Neither does transgression contain the moment of positivity, for it is not bound to a determinate content and not set by limits. See M. Foucault, "A Preface to Transgression," in *Aesthetics, Method, and* Epistemology, ed. J. D. Faubion (New York: The New Press, 1998). Moreover, in *The Archaeology of Knowledge* (New York: Vintage Books, 2010), Foucault is primarily concerned with the role of discontinuity, dispersion, and contingency in the course of history. It is an interesting question whether Negri's analysis remains consistent with his appropriation of elements from both Marx and Foucault.

⁸⁴ According to Marx's theory of the productive forces, capitalist social relations eventually turn out to be fetters on the development of the productive forces. In his 1859 "Preface to 'A Critique of Political Economy" he writes the following: "No social order ever perishes before all the productive forces for which there is room in it have developed; and new, higher relations of production never appear before the material conditions of their existence have matured in the womb of the old society itself." See K. Marx, "Preface to A Critique of Political Economy," in D. McLellan, Karl Marx: Selected Writings (Oxford: Oxford University Press, 2000), 426.

⁸⁵ Marx, Grundrisse, 706.

⁸⁶ Marx, Capital, Volume One, 781.

⁸⁷ See Heinrich, *An Introduction to the Three Volumes of Marx's* Capital, 175-178, for a critical evaluation of the "theory of collapse."

⁸⁸ Marx, Grundrisse, 708.