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## Abstract

This paper argues that Marx's notion of the "general intellect" in the "Fragment on Machines" is currently mobilized by capitalism to animate AI-technology. In "Inhuman Power," Dyer-Whiteford et al. introduce a new period of capitalist production and accumulation beyond the horizon of post-Fordism, namely, "an actually existing AI-Capitalism." The plausibility of transmuting the general intellect, or the "social brain," into analyzable patterns of data and measurable variables is optimized to accelerate the machinic automation of labor. In this paper, I argue that the advance of machines is not an immediate outcome of techno-scientific exploration but rather an aftermath of the inner conflict between labor and capital. Then, I contend that the machinic subversion of the general intellect relegates human labor to a merely supplementary position in the supervision of micro-machinic processes. Next, I demonstrate that the technological arrest of the general intellect reinforces the intrinsic drive of the capital to liberate itself from the necessity of human labor by integrating artificial intelligence into the general conditions of production. Finally, this paper concludes that the machinic automation of labor compromises the fundamental quality of "life-activity," which consequently aggravates humans' forgetfulness of their character as "species-beings."

Keywords: *General Intellect, Artificial Intelligence, AI-Capitalism, Automation of Labor, Species-Being*

## INTRODUCTION

In the *Communist Manifesto*, Karl Marx and Friedrich Engels assert that the "bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of production, and with


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them the whole relations of society."[1] This rudimentary principle serves as the immanent logic that underpins the *revolutionary* character of capitalism. In the age of machinic automation, this principle also informs the current trajectory of artificial intelligence. This principle entails that a continuous transformation of the "general condition of production" is necessary to address the socio-economic contingencies that the capital encounters in the unfolding of history.[2] Take, for instance, in the mid-20th century, the paradigm shift from Fordism (Taylorism, assembly line, mass production) to post-Fordism (information and communication technologies, logistics, decentralization) exhibits how capitalism transforms its social structures, technical foundations, epistemic paradigms, and cultural practices to address pressing historical challenges.

The relentless techno-scientific innovations in the field of artificial intelligence invoke critical considerations of an ongoing symptom of structural transformation in the general condition of capitalist production. In this vein, this paper examines and evaluates the impact of the machinic automation of labor on the qualitative aspect of human life-activity. First, I will argue that the advance of machines is not an immediate outcome of techno-scientific exploration but rather an aftermath of the inner conflict between labor and capital. By resounding Marx, I will contend that the machinic subversion of the general intellect will relegate human labor to a merely supplementary position in the supervision of micro-machinic processes. Then, I will demonstrate that the technological arrest of the general intellect reinforces the intrinsic drive of the capital to liberate itself from the necessity of human labor by integrating artificial intelligence into the general conditions of production. Finally, I will explain that the machinic automation of labor compromises the fundamental quality of life-activity, which consequently aggravates humans' forgetfulness of their character as species-beings.

## Machinic Automation: Between Capital and Labor

In his *theory of value* in *Das Kapital*, Karl Marx presents two distinct concepts that are dialectically interrelated, namely, *fixed capital* and *variable capital*. Simply put, the former refers to machinery, whereas the latter pertains

1 Karl Marx and Friedrich Engels, *The Communist Manifesto* trans. by Samuel Moore (London: Penguin Classics, 2002), 222.

2 In *Das Kapital*, Marx further maintains that the capital "by means of machinery, chemical processes and other methods, it is continually transforming not only the technical basis of production but also the functions of the worker and the social combinations of the labour process. It thereby revolutionizes the division of labour within society... [Capitalism] by its very nature, necessitates variation of labour, fluidity of functions, and mobility of the worker in all directions." See Karl Marx, *Capital Volume 1* trans. by Ben Fowkes (London: Penguin Group, 1976), 617.

to human labor. This distinction is grounded on the fundamental principle that only human labor can create value in a capitalist society. The machine remains as a "constant, fixed capital." It does not produce value in-itself irrespective of how enormous and voluminous it is. Rather, its primary function is to reinforce human labor by ensuring its accuracy and augmenting its efficiency in the production process.

Instead of producing new value, according to Marx, machinery "yields up its own value to the product it serves to beget."[3] The machine, as an outcome of human labor, already has value in-itself which it transfers to the product it yields. Here, then, the indispensable role of the machine rests on its "social function" which underscores its capacity to produce more relative surplus-value. This dynamic informs the dialectical relationship between capital and labor, namely, the reduction of necessary labor time and the intensification of the production of surplus value through "shortening the part of the working day in which the worker works for himself, to lengthen the part he gives to the capitalist for nothing."[4] By increasing the production of surplus value, more commodities are produced in a shorter period of time. In this respect, the automation of labor can produce more desirable outcomes than that of manual labor. Indeed, the capitalist can reduce the money he pays to maintain labor by integrating machinery into the production process while, at the same time, enjoying improved profit flow.[5] The machine, therefore, accelerates capital's production, circulation, and consumption in all aspects.

3 Marx, *Capital,* 1:509.

4 Marx, *Capital,* 1:492. In the *Grundrisse*, Marx states that the machine *has* value "in so far as it increases the relation of surplus labour to necessary labour, by enabling labour, through an increase of its productive power, to create a greater mass of the products required for the maintenance of living labour capacity in a shorter time." See Karl Marx, *Grundrisse: Foundations of the Critique of Political Economy* trans. by Martin Nicolaus (Penguin Books, 1973), 700. Moreover, "capital employs machinery, rather, only to the extent that it enables the worker to work a larger part of his time for capital, to relate to a larger part of his time as time which does not belong to him, to work longer for another. Through this process, the amount of labour necessary for the production of a given object is indeed reduced to a minimum, but only in order to realize a maximum of labour in the maximum number of such objects. The first aspect is important, because capital here… reduces human labour, expenditure of energy, to a minimum." See Marx, *Grundrisse,* 701.

5 It should be noted, however, that the automation of labor, for Marx, will eventually throw capitalism to an economic crisis. First and foremost, it will create an imbalance between the exponential growth of commodities produced and the purchasing power of consumers since machinery accelerates the production of commodities. It lays down the "conditions" for the self-destruction of capitalism: that is, (1) the growing competition among the bourgeoisie, (2) the epidemic of overproduction, (3) fluctuation of the wages of the workers, and (4) increasing improvement of machinery. Finally, automation lowers the prices of commodities and thereby leads to a *falling rate of profit* (FROP). See Marx and Engels, *Communist Manifesto*, 226-227.

The immanent drive of the capital to replace human labor with machinery finds its most profound insights in the "Fragment on Machines" in the *Grundrisse*. In this groundbreaking text, Marx argues that the machinic transformation of manual labor leads to an automatic system of social production. "Automation" serves as the most complete and adequate form of the system of machinery wherein the production processes are "set in motion by an automaton, a moving power that moves itself… so that the workers themselves are cast merely as its conscious linkages."[6] Thanks to this automation, the worker's life activity is now mediated and regulated in all directions by the movements of scientific-technological development.

In this light, machinery is conceived as objectified labor which entails that it represents the accumulation of productive forces. It is here that the machine gets its value as "a quantity of labor in objectified form."[7] However, the objectified labor in machinery appears not only as a form of product but in the form of the "force of production itself."[8] Here, therefore, automation becomes the *central force* in social production.

Marx insists that the development of the means of labor into a mode of machinery is not "an accidental moment of the capital"; rather, it is a calculated and schematic "historical reshaping" of an obsolete form of labor into an advanced mode of production suitable to the current demands of the capital.[9] In a similar vein, reverberating Marx's voice, Matteo Pasquinelli states that "it was not the invention of the steam engine that triggered the industrial revolution, but rather the developments of capital and labour demanding a more powerful source of energy."[10] Perhaps a historical account would further illuminate this capitalistic tendency: take, for example, how the automation of labor assisted the capital in addressing the societal turmoil instigated by the 1968 student revolution. Berardi argues that the 1968 movements demonstrated the alliance between "mass intellectual labor and the worker's refusal of industrial labor"; it is considered as the "first phenomenon of conscious globalization," which caught the capitalists defenseless, especially by economic sabotage, workers' absenteeism, street demonstrations, student strikes, among others.[11] Here,

6 Marx, *Grundrisse*, 692.

7 Marx, *Grundrisse*, 700.

8 Marx, *Grundrisse*, 700.

9 Marx, *Grundrisse*, 694.

10 Matteo Pasquinelli, "On the Origins of Marx's General Intellect," *Radical Philosophy*, no. 2.06 (2019): 48, https://www.radicalphilosophy.com/article/on-the-origins-of-marxs-general-intellect.

11 Franco Berardi, *The Soul at Work: From Alienation to Autonomy*, trans. Francesca Cadel and Giuseppina Mecchia (Semiotext(e), 2009), 28.

the students and the workers found unity and solidarity in their fight against relentless systemic repression, exploitation, and dehumanization. This historic event was highly regarded as the "organic integration of labor and intelligence" in social movement and political resistance.[12] According to Berardi, however, this series of resistance was countered by a *technological reorganization* of society in the mid-1970s, particularly in the economic domain wherein "the technical restructuration implied the substitution of human labor with machines, the automation of entire productive cycles and the subjugation of mental activity."[13] This countermovement of capital constantly proved the elasticity or flexibility of its methodologies, and most importantly, of its revolutionary and creative character.

Accordingly, the interrelationship of capital, machine, and labor rests on the principle that the creation of machines is not an immediate product of techno-scientific advancement and is not detached from social dynamics; rather, it is an aftermath of the inner conflict between labor and capital. On the one hand, labor continuously demands social recognition, that is, to emancipate itself from the shackles of the capital. On the other hand, the capital intends to gratify its insatiable drive to accelerate the production of surplus labor and to uphold its intrinsic goal to liberate itself from the instinctual and biological restriction of man.[14] The advance of machines, therefore, explores the possibility of the capital without humans while keeping itself in constant movement.

## The Machinic Subversion of the General Intellect[15]

In this section, I intend to demonstrate that Marx already anticipated how capitalism could advance its techno-scientific dominance through mobilizing the "general intellect."[16] Christian Fuchs contends that Marx's concept of the general

12 Berardi, *The Soul at Work*, 29.

13 Berardi, *The Soul at Work*, 29.

14 To be sure, however, not only humans have biological needs, but AI also has metabolic needs such as programming, data mining/processing, maintenance, among others.

15 According to Berardi, the term "intellect" lost its ontological significance throughout the 20th century. Originally, this term has its rootedness not only in social knowledge, but also in ethics and politics. (See Berardi, *The Soul at Work*, 29.) In the 2nd half of the 20th century, however, the intellect undergoes a qualitative transformation. It has been bastardized and absorbed into the domain of economic production. As a result, it has been instrumentalized with great emphasis on its ability to measure the performativity and amplify the functionality of collective labor.

16 Marx encountered the idea of "general intellect" through his reading of William Thompson's book entitled *An Inquiry into the Principles of the Distribution of Wealth.* Thompsonargues that the aggregate of social knowledge, or "mental labor," can become a power inimical to society once it is transposed to machines and predisposed for authoritarian means. See William Thompson, *An Inquiry into the Principles of the Distribution of Wealth* (London: Richard Taylor, 1824), 252.

intellect is the "prognostic-descriptive of the emergence of computerization and high-tech capitalism."[17] The mobilization of the general intellect has two effects: first, the machinic utilization of the general intellect will subordinate human laborto a mere supplementary position in supervising micro-machinic processes instead of being the principal force in social production; second, it will accelerate the automation of labor which could result in precarity of work endangering the primacy of human labor in the employment market. In other words, the assimilation of the general intellect to machines has consequently mutilated and depleted the worker. The machinic objectification of the general intellect relegated the worker to the status of a mere object of capital accumulation. He ceases being the autonomous subject of social production. Accordingly, the intelligence of his labor is appropriated by the capital. Here, Marx maintains that "what is lost by the specialized workers is concentrated in the capital which confronts them… turning them into a fragment of themselves."[18] By mobilizing the general intellect, the capital has been able to generate technologies that are strategically relevant in advancing its deemed priorities.

In the same vein, Pasquinelli suggests that the machinic subversion of the general intellect makes societal knowledge inimical to workers in such a way that the general intellect evolves into a "machinic collective worker" imbuing the characteristics of a "proto-cybernetic organism" through which the industrial machines become the ultimate "calculator of the relative surplus value that cyborg produces."[19] It advances calculative and performative thinking which measures and quantifies human activities based on the numerical outcomes they achieve.

General knowledge is utilized against the workers, setting aside manual labor as secondary to capitalist accumulation. The worker was assigned to perform micro tasks that do not necessarily require advanced cognitive and somatic skills. In this regard, McKenzie Wark contends that "the machinic objectification of the general intellect has rendered the 'social brain' as an aspect of the capital instead of labor."[20] To put it simply, the social brain becomes an extension of the industrial processes. Here, therefore, it is important to ask: What constitutes the social brain? Resounding Marx, Wark argues that "all the sciences have been pressed into the service of the capital" suggesting that

17 Christian Fuchs, "Knowledge, Technology, and the General Intellect in the Grundrisse and Its 'Fragment on Machines,'" in *Reading Marx in the Information Age: A Media and Communication Studies Perspective on Capital Volume 1* (Routledge, 2016), 7.

18 Marx, *Capital,* 1, 482.

19 Pasquinelli, "Origins of Marx's General Intellect," 47.

20 McKenzie Wark, *General Intellects: Twenty-One Thinkers for the Twenty-First Century* (Verso, 2017), 15.

the fruits of techno-scientific innovation have been finally subjugated and instrumentalized by the established system "transforming the whole social formation, permeating everyday life, and shaping strange forms of surveillance and control."[21]

In the "Fragment on Machines," Marx holds that the general intellect has become the "direct force of social production." This theoretical undertone was echoed by Paolo Virno, who treats the general intellect as an integral variable in the production process. However, he carefully departs from Marx's proposition that the general intellect is reducible to "scientific knowledge" objectified in the "system of machinery." He extends Marx's theory by proposing that the general intellect also includes "formal and informal knowledge, ethical tendencies, mentalities, and language games."[22] In other words, Virno claims that the general intellect constitutes the entirety of social engagements and human networks including communicative interaction, ideological abstraction, dialogical performances, linguistic systems, logical patterns, or conceptual schemes, and so on. He argues that the general intellect takes the form of "mass intellectuality" wherein various mental attitudes such as "the faculty of language, the disposition to learn, memory, the power of abstraction and relation" gain principal status as productive resources for the capital.[23]

The general intellect also functions as "immaterial labor" which is depicted by Maurizio Lazzarato as the labor that produces the informational and cultural content of a commodity. The former refers to the skills involved in direct labor which is increasingly mediated by cybernetics and computer control. The latter pertains to the social activities that directly affect cultural and aesthetic standards such as "fashions, tastes, consumer norms, and, more strategically, public opinion."[24] Drawing from Virno and Lazzarato's propositions, the general intellect in the form of "mass intellectuality" and "immaterial labor" has material and operative functions in administering social and cultural relations including

21 Wark, *General Intellects,* 11.

22 Paolo Virno, "General Intellect" trans. by Arianna Bove, 15 (Historical Materialism 2007), 2.

23 Paolo Virno, "General Intellect," 15.

24 Maurizio Lazzarato, "Immaterial Labor," in *Radical Thought in Italy: A Potential Politics*, ed. Paolo Virno and Michael Hardt (University of Minnesota Press, 1996), 1.

the fabrication of information and epistemological paradigms in a capitalist society.[25]

Moreover, Roberto Nigro advances the idea that the general intellect is now a terrain of socio-political struggle since "it is a living labor that has to be continually governed in order to constitute a source of profit for capital."[26] This means that the capital seeks to take control of the general intellect for its own interests, procuring new and intensified forms of domination leading to the emergence of new class compositions and new subjects. However, Nigro maintains that despite its social role, it remains "abstract knowledge." It is here where Pasquinelli rejects this idea and argues that the general intellect is a modality of social practice that has its concrete materiality in rearranging and reconfiguring social relationships which directly command the "development of the social individual."

In addition, Pasquinelli's re-interpretation of Marx's "Fragment on Machines" provides a twofold constitutive characteristics of the general intellect as a direct force of production: on the one hand, it is a "social force" of production, and, on the other hand, it is a "social practice."[27] The former highlights, beyond Marx's diagnosis, the general intellect as a social drive with definite intensity and degree, whereas the latter underscores the material form of the general intellect as a real-life process. With this consideration, the general intellect is not merely an abstract knowledge, but also a concrete force that mobilizes the ideological, cultural, and technological functionaries of the capital.

The general intellect is the very medium utilized by techno-capitalists in advancing their innovations in the field of artificial intelligence. The general intellect becomes the primary source of information that is being subjected to data processing, deep learning, building algorithmic models, deployment and monitoring of AI-tools, among others. Being abstracted from the collective labor, the general intellect is harvested by the pseudo prophets of merely appearing techno-scientific progress predisposed for codification, calculation, and experimentation. The capital achieves a certain degree of automation that will reduce its dependency on "necessary labor" by mobilizing the general intellect through artificial intelligence and thereby subsuming life-activity to mere supervision of machinic processes.

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25 However, Paolo Virno contends that the general intellect does not really need to have "a mechanical body or electronic soul" to operate. Even without a mechanical body, the general intellect is already a "productive machine" influencing the intangible field of language and communication in contemporary society. Here, the general intellect is not reducible to AI technology; instead, it is regarded as one of its modes of existence. See Virno, "General Intellect."

26 Roberto Nigro, "General Intellect," *Krisis*, no. 2 (2018): 67.

27 Pasquinelli, "On the Origins of Marx's General Intellect," 50.

To briefly contextualize, the formal study of artificial intelligence began at a conference held at Dartmouth College in Hanover, New Hampshire, in 1956 that was organized by scientists and researchers led by Marvin Minsky, John McCarthy, and Claude Shannon. During this event, the organizers announced that every feature of intelligence can be replicated by machines. It became a vision that was driven by an insatiable urge "to make machines use language, form abstractions and concepts, and solve all kinds of problems."[28] In its initial inauguration, therefore, artificial intelligence is conceived as the simulation of various human cognitive faculties that are deemed integral in resolving intricate societal problems.

At this point, we are able to establish that Marx regarded the general intellect as the general social knowledge that becomes the "direct force of social production." Further, our discussion has been able to lay down two propositions that underpin the framing of artificial intelligence in this paper. On the one hand, the "intelligence" in artificial intelligence pertains to the extraction of the general intellect (knowledge and skills) from the collective labor that was amassed and codified throughout the history of social production. It means that AI-technology embodies the "externalized" and "reified" intelligence of the collective whole.[29] On the other hand, the "artificiality" of "artificial intelligence" primarily refers to the exteriorization and objectification of the general intellect into AI-technologies with the intention to replace human labor. Yuk Hui,through his "geometrization," holds that intelligence can be exteriorized and confined to matter. Also, it can be transferred from one matter to another matter which "gives artificial intelligence the capacity to produce faster and vaster mutations than human intelligence."[30] Accordingly, this artificiality is mediated by the instrumentalization and commodification of the intelligence of the collective labor to serve the interests of the capital. In this respect, AI technologies ultimately serve as the crystallization of the alienated knowledge of collective labor.[31] Thereby, artificial intelligence reveals that mental labor can also be codified, measured, and automated as efficiently as manual labor.

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28 Nick Dyer-Witheford et al., *Inhuman Power: Artificial Intelligence and the Future of Capitalism* (Pluto Press, 2019), 9.

29 Zachary Biondi, "The Specter of Automation," *Philosophia* 51, no. 3 (2023): 1097, https://doi.org/10.1007/s11406-022-00604-x.

30 Yuk Hui, "On the Limit of Artificial Intelligence," *Philosophy Today* 65, no. 2 (2021), https://doi.org/10.5840/philtoday202149392.

31 To avoid conflation of terms, the distinction between Marx's theorization of machines in the *Grundrisse* and the contemporary theorization of artificial intelligence rests on their "applicability." For Marx, machines are utilized primarily for improving the conditions of production in the economic domain. Artificial intelligence, aside from economic prosperity, is cultivated for political dominance, cultural hegemony, historical distortion, social control, military operations, gender and racial bias, among others.

Consequently, the demarcation line that separates mental from manual labor erodes in the machinic application of artificial intelligence since it undergoes strategic reframing and reshaping of societal activities through the schema of exchange principle, amplifying capital circulation and profit accumulation.

## Automating the Social Factory: AI as the General Condition of Production

The desire of the capital to replace human labor with machines leads to the integration of AI in the general condition of production. In *Inhuman Power*, Nick Dyer-Witheford suggests that human civilization is marching rapidly towards a new period of capitalist mode of production that is already beyond post-Fordism. He describes it as "an actually-existing AI-capitalism." It is an experimental phase of cybernetic capitalism aimed at the materialization of a fully developed AI-capitalism.[32] It is fundamentally characterized by datafication and commodification of the general intellect. A sufficient technical foundation should be laid down first to meet the demand of a data-centric mode of production. In this new mode of social production, AI is regarded as the ultimate basis of a widespread structural reorganization of capitalist society. Here, AI will serve as the mediatory element not only of social production but also of social relationships and human experiences in general. AI will be integrated both in the infrastructure and non-infrastructure that facilitates the flow of the capital thereby increasing the force and intensity of production. Thus, AI will become the general condition of production, i.e., the means of social cognition which entails perceiving and conceiving phenomena through the schema of AI-capitalism.

The general condition of production includes, but is not limited to "the means of communication and transportation, the general use of buildings for production and storage, the market, i.e., the sphere and process of circulation; the political world order; the general state of science, technology, and engineering."[33] It means that artificial intelligence, as a general condition of production, is becoming necessary and fundamental for all transactions administered by the capital. The social function of the general condition of production is to ensure the unhampered circulation of the capital. Take, for instance, the flow of the capital will improve tremendously if there are appropriate and well-designed roadways, bridges, railways, harbors, airports, as well as sufficient and well-functioning non-infrastructure and/or ideological apparatuses. For this reason, artificial intelligence is deemed integral in the efficient operations of the capital

32 Dyer-Witheford et al., *Inhuman Power*, 50.

33 Dyer-Witheford et al., *Inhuman Power*, 47.

especially in the spheres of production, circulation, finance, consumption and social reproduction.

In the production sphere, artificial intelligence through machine learning operates by reducing the necessity and cost of manual labor and exploring the possibilities of increasing the procurement of surplus labor. Machine learning is considered as one of the most dominant approaches in artificial intelligence. It comprisesdata gathering and processing, building and training algorithmic models, and deployment and monitoring of AI-technology. Machine learning is currently making manufacturing more intelligent. As a repository of codified general intellect, big data makes possible the elasticity and flexibility of manufacturing processes which initiates the transition from the traditional mode of manufacturing to a smart manufacturing era of Industry 4.0. Accordingly, machine learning proves to be indispensable in the manufacturing sphere "together with digital solutions and advanced technologies, including the Industrial Internet of Things, additive manufacturing, digital twins, advanced robotics, cloud computing, and augmented reality."[34] It is for this reason that big-tech companies such as GE, Siemens, Microsoft, and Intel are investing in applying machine learning in manufacturing in order to "bring down labour costs, reduce product defects, shorten unplanned downtimes, improve transition times, increase production speed and conduct predictive maintenance."[35]

In the circulation sphere, the social function of AI is to accelerate the realization of profit by reducing circulation time and accelerating the flow of the capital "by enabling a tighter integration (coordination and scheduling) between factories, distribution centers and retail stores;" also, recommendation systems are used to mobilize targeted advertising and thereby influence consumer options and purchase decisions.[36] In terms of logistics, for instance, Amazon's introduction of the Kiva Robotic system which is an automated warehouse management system for picking operations and design optimization. These bots are fueled by a computerized inventory system that is constantly updated for efficiency and accuracy. They are also guided by motion sensors to bring goods to pickers stationary on a work platform. Here, Amazon introduced a systematically arranged and portable storage units to store products so that "when an order is entered into the Kiva system, the software tracks down the

34 Tingting Chen et al., "Machine Learning in Manufacturing towards Industry 4.0: From 'For Now' to 'Four-Know,'" *Applied Sciences* 13, no. 3 (2023), article 1903, https://doi.org/10.3390/app13031903.

35 Dan Faggella, "Industrial AI Applications—How Time Series and Sensor Data Improve Processes," Emerj Artificial Intelligence Research, May 30, 2018, https://emerj.com/industrial-ai-applications-time-series-sensor-data-improve-processes/.

36 Mark Coeckelbergh, *AI Ethics* (MIT Press, 2020), 74.

closest bot to the item and directs it to retrieve it."[37] In doing so, "the robots have reduced the time to complete an order by a fifth" which saves time and space for Amazon because "their squat profile allows fitting 50 percent more inventory in a given area…"[38] Meanwhile, when it comes to sales, some of the "retail jobs too are registering the tremors of AI's introduction… online sales have transformed retail business, self-checkout lines are common, and both made deep cuts to in-store employment."[39] For example, automated retail outlets such as the integration of kiosk machines in fast food chains. On the one hand, it allows the capital to reduce overhead costs by decreasing employees. And, on the other hand, it also makes it possible for the capital to utilize its consumers' energy to administer and process their own orders. The latter seems to be ingenious because the capital extracts from the consumers the remaining energy they have from their work and/or daily activities.

In the financial sector, artificial intelligence also accelerates the metamorphosis of money into more money. Government institutions and corporate businesses greatly rely on algorithmic profiling for the approval and/or disapproval of requests related to loans, insurance, housing, medical claims, and even job applications. Hence, machine learning is "now widely used to assess credit quality, for fraud detection to price and market insurance contracts, and to automate client interaction."[40] Finally, in the sphere of social reproduction, wherein the preservation of the *status quo* and human capacity to render labor are reinforced and replenished, algorithmic management and workplace surveillance, which replaced supervisory and managerial heads, are maximized in assessing workers' productivity and performativity and their efficiency and accuracy in achieving their designated functions. Artificial intelligence endangers waged workers in industries such as "health care, education and entertainment, and establishes new patterns of machine-mediated interpersonal relations (such as social media), or human-machine relations (such as elder-care robots)."[41] In doing so, Mario Tronti suggests that the capital transforms society into a social factory, that is, "the whole of society becomes an *articulation* of production, the whole society lives in function of the factory, and the factory extends its exclusive dominion over the whole

37 V. G. Pratheep et al., "Design and Fabrication of Multitasking Transit Robot," *IOP Conference Series: Materials Science and Engineering* 1057, no. 1 (2021), article 012034, https://doi.org/10.1088/1757-899X/1057/1/012034.

38 Dyer-Witheford et al., *Inhuman Power*, 85.

39 Dyer-Witheford et al., *Inhuman Power*, 85.

40 Dyer-Witheford et al., *Inhuman Power*, 86.

41 Dyer-Witheford et al., *Inhuman Power*, 87.

society."[42] As a social factory, society is reconfigured and recalibrated as a mere resemblance and assemblage of intricate, interrelated, and integrated machineries of the capital.

Now, what is the goal of AI-Capitalism? A fully developed AI-capitalism primarily intends to create an "AI-ecosystem" wherein artificial intelligence is considered as the general condition of production through which capitalism can assume a life of its own. In the formation of an AI-ecosystem, an integration of generalized ambient intelligence in social structures is regarded as a prerequisite. There are two expressions of ambient intelligence, namely, the Internet of Things and the Smart City. The Internet of Things is an emerging internet comprised of "machine-to-machine communications, empowered by technologies such as radio-frequency identification (RFID)."[43] It invigorates machines through its own mechanisms that are geared towards harvesting social information, data processing, pattern analysis, and algorithmic building, together with the deployment of assemblages of neural networks and interrelated smart objects. The goal is for machines to communicate and behave intelligently, thereby assisting the capital in resolving various socio-economic affairs.

The other aspiration is the formation of the Smart City deemed as the presence of "pervasive and ubiquitous computing and digitally instrumented devices built into the very fabric of urban environments."[44] Simply put, the smart city is the urban manifestation of the Internet of Things. It involves installation of city sensors and cameras mobilized by machinic actuators and advanced processors through "machine-to-machine communication, automatically optimize traffic, maintenance, energy distribution or various other urban flows in such ways that social life is improved."[45] However, it tacitly intends to subjugate urban development and citizens' movements under overarching AI surveillance.

The Internet of Things and Smart City culminate in an overwhelming presence of artificial intelligence, paving the way for ambient intelligence. It aims to create an "electronic environment that is sensitive and responsive to the presence of people."[46] Here, then, artificial intelligence is infused into everything that exists. It is in this aspect that the general intellect is mobilized to animate the functionalities of AI-technologies through a wide range of

42 Mario Tronti, *Workers and Capital*, trans. David Broder (Verso, 2019), 26.

43 Dyer-Witheford et al., *Inhuman Power*, 56.

44 Dyer-Witheford et al., *Inhuman Power*, 57.

45 Dyer-Witheford et al., *Inhuman Power*, 57.

46 Dyer-Witheford et al., *Inhuman Power*, 58.

neural networks connecting digital objects and machinic devices. The capital constantly emulates aspects of the social brain and converts them into machinic forms. It captures tacit knowledge residing in the collective mind and makes it explicit representations by codifying it into recognizable data patterns available for the capital. As a result, AI is corroborated as the intermediary-mediator of the system, state apparatuses, and the people through which the ideology of the capital could work with unpredictable ingenuity, penetrating even the deepest recesses of society and the innermost aspects of subjectivity.

The materialization of the ambient intelligence entails the total formation of the artificial intelligence as the rudiment of the general conditions of production. Lazzarato claims that it is an era where "collective learning process becomes the heart of productivity."[47] It is a society grounded on manipulation and instrumentalization of information extracted from billions of societal data out of the general intellect. This AI-driven society thrives by mobilizing "important communication and marketing strategies in order to gather information (recognizing the tendencies of the market) and circulate it (constructing a market)."[48]

AI-Capitalism would demonstrate a radical change in the technological structure of the capital by transforming nature into a smart technological environment and underscoring the transmutation of organic labor into machinic labor in which automation becomes the primary source of surplus value. Artificial intelligence would accelerate the propagation and perpetuation of bourgeois ideology once it becomes the general condition of production through interconnected smart networks. An ambient intelligence that is ignited by machine learning capable of simulating cognition and perception would consequently supplement the hegemony of the capital. The automation of labor is an immanent tendency of the established system to reduce its reliance on variable capital by limiting the necessary labor time required in the production of minimum wage and amplifying the production of surplus labor by maximizing the utilization of fixed capital.

## The Subsumption of Labor and the Forgetfulness of the Species-Being

The present trajectory of AI development under capitalism heavily affects the quality of human "life-activity." It is concerning that capitalism continuously explores the possibility of machines replacing both the cognitive and physical skills of humans. Bernard Stiegler ponders the possible effects of AI automation

47 Lazzarato, "Immaterial Labor," 3.

48 Lazzarato, "Immaterial Labor," 9.

on "life-activity" through his concept of "grammatization." This concept refers to the development of digital technologies that "discretized the gestures of laboring body, capturing and fixing their work-knowledge."[49] It codifies aspects of human activity that lead to the deskilling of labor. It directly affects human knowledge not only about how to work properly, but, most importantly, about how to live, simply because grammatization also includes the codification of the entire "cognitive functions," "biological foundations," "physico-chemical foundations," and "the entire patterns of social interactions."[50] By transposing human knowledge, or the general intellect, to machines, it deskills humans and subordinates them to the capital. Grounded in this principle, artificial intelligence subsumes not only the capacity to enact labor but also general human behavior, communication, knowledge, skills, or to be more precise, the totality of life-activity that comprises the reality of how we live. Here, Stiegler argues that all forms of substantial knowledge have been deadened, if not eradicated, in the automation of human activities, including *savoir-faire* (skills, know-how), *savoir-vivre* (knowledge of how to live), and the entirety of theoretical knowledge.[51] In this automation, artificial intelligence, especially machine learning, has been able to calculate correlations and patterns in available accumulated data which makes it possible to predict or anticipate individual and collective actions. However, it compromises life-activity to such an extent that this process creates disaffected, confused, incapacitated subjectivities or what Stiegler called stupefied subjects.[52]

When the entire life-activity is subsumed by the capital, the productive capacities of life that have mental and somatic representations are subordinated to the entire realm of social reproduction. Michael Hardt and Antonio Negri regarded this process as a form of "biopower" that has an immediate influence on the production and reproduction of life itself since it becomes a new mode of societal control that propagates and perpetuates the logic of the Empire.[53] Hardt and Negri suggest that biopower integrates the general intellect in advanced technologies such as artificial intelligence wherein the power of science, knowledge, affect, and communication are instrumentalized and deployed throughout the territory of the capital. They claim that "intelligence and affect… just when they become the primary productive powers, make production and

49 Bernard Stiegler, *Automatic Society*, vol. 1, *The Future of Work*, trans. Daniel Ross (Polity, 2015), 237.

50 Stiegler, *Automatic Society*, 202.

51 Bernard Stiegler, *States of Shock: Stupidity and Knowledge in the 21st Century*, trans. Daniel Ross (Polity, 2016), 45.

52 Stiegler, *States of Shock*, 82.

53 Michael Hardt and Antonio Negri, *Empire* (Harvard University Press, 2000), 364.

life coincide across the terrain on which they operate."[54] It finds its culmination and reaches a threshold of realization adequate to the power of the capital. This threshold is precisely what AI-Capitalism intends to achieve by totalizing the field of social reproduction. Here, biopower regulates and administers societal life through AI technologies such as algorithmic management, informational control, digital surveillance, police violence, among others. Collective intelligence and affect of the social body are recalibrated and tend to be "organized by the cooperation of subjects in general intellect. The organization of the multitude as political subject, thus begins to appear on the world scene. The multitude is biopolitical self-organization."[55] Accordingly, the subsumption of life-activity reduces humans to mere bodies of societal control.

In his *Economic and Philosophic Manuscripts of 1844*, Marx provides a comprehensive discussion on how capitalistic production, including machinic automation, deteriorates the quality of humans' life activity. According to him, the worker suffers from alienation as one of the detrimental impacts of the capitalist mode of production. It entails that human life activity is already compromised. In the succeeding discussion, I intend to briefly highlight the first two kinds of alienation and focus more on the third kind, which is directly affected by the automation of labor.

The first kind of alienation is the "alienation from the product of labor." Here, the product of labor acquires an independent existence from the worker and becomes more valuable than him. The product does not belong to the worker; rather, it exists outside him as an external force set against himself. In the process, he puts aspects of his life into the object "but his life no longer belongs to him but to the object."[56] What makes it even worse is that from the outset of the process, the object, including himself, already belongs to the capital. The worker is confronted by a product that is alien and independent from him. Consequently, the product of his labor appears to him as a "loss of reality."[57] For this reason, the more the worker produces, especially in the age of automated and accelerated production, the more powerful the commodified world becomes, and the greater thecommodified world and machinic processes assume, the more his "life-activity" becomes deformed and emasculated.

The second kind of alienation is the "alienation from the act of production." If the product of labor is an alien object, the activity of production

54 Hardt and Negri, *Empire*, 365.

55 Hardt and Negri, *Empire*, 411.

56 Karl Marx, *Economic and Philosophic Manuscripts of 1844*, trans. Martin Milligan (Prometheus Books, 1988), 71.

57 Marx, *Economic and Philosophic Manuscripts*, 72.

itself is already a form of alienation. Marx insists that the alienation from the act of production is an active process of alienation, namely, it is "the alienation of activity, the activity of alienation."[58] In the immediate act of production prior to the actualization of the commodity, the worker is alienating himself from himself altogether. The worker does not posit or affirm himself in the activity of production; instead, he actively mortifies and forgets himself. It is here that the activity of production becomes an "activity as suffering."[59] He sacrifices the actual life-activity that makes him a human being. His activity could no longer be deemed voluntary or fulfilling; instead, it is coerced and demoralizing. It is "forced labor." Meanwhile, in the age of automated production, we mentioned earlier that humans are relegated to a supplementary position in such a way that they are assigned to administer machinic tasks that require little, if not without, cognitive intervention. It jeopardizes the potentiality of labor in cultivating human possibilities. Instead, it exacerbates the deformity and decadence of his life-activity. Since it eliminates the substantial elements that make humans members of the human species, it follows that it diminishes the general quality of life-activity. His life-activity is no longer an autonomous, conscious, and creative activity.[60] Human life-activity becomes a mere appendage of machinic processes. It is no longer a manifestation of organic life; rather it becomes a sheer objectification of mechanical and monotonous processes.

Accordingly, the above discussion leads to the third aspect of alienation, namely, the "alienation from the species-being." This kind of alienation is deeply related to human life-activity, since it is only in life-activity where humans can express their characters as species. Marx holds that "the whole character of a species – its species character – is contained in the character of its life-activity."[61] By estranging the life-activity, it estranges the "species" from man. First, it turns the life of the species into a mere means for physical subsistence, as a means for satisfying fabricated desires, and, secondly, it makes commodified life the ultimate purpose of the life of the human species. The relentless automation of labor for the sake of the capital impedes the realization of the species in humans.

58 Marx, *Economic and Philosophic Manuscripts*, 73.

59 Marx, *Economic and Philosophic Manuscripts*, 75.

60 Marx, in the *Economic and Philosophic Manuscripts of 1844,* distinguishes human's life-activity from that of animals. In the former, human life-activity is an object of his consciousness and freedom, which entails that the human has conscious life-activity; that is, he is a conscious being. In the latter, animals are immediately identical with their life-activity, which means that the product of their activity is directly necessitated by their biological needs for survival, unlike humans, who can produce universally even beyond their immediate needs, and they can produce according to the laws of beauty, which is why their life-activity is not merely conscious activity but creative activity as well. See Marx, *Economic and Philosophic Manuscripts*, 76–77.

61 Marx, *Economic and Philosophic Manuscripts*, 76.

What makes it worse is that by constantly improving artificial intelligence, it simultaneously depletes and deteriorates the quality of human life-activity. The relentless aspiration to animate artificial intelligence directly de-animates the organic world, resulting in the degradation of the entirety of social and natural activities. The insatiable obsession with artificiality leads to the forgetfulness of the species.

Moreover, the "species-being" has twofold expressions, namely, the subject (or the self) and the others. The subject and the others are two manifestations of Nature. The rootedness of the species-being is in the oneness of Nature. The bifurcation of the self and the other is a blatant ideological abstraction. Marx holds that:

> The life of the species, both in man and in animals, consists physically in the fact that man lives on inorganic nature... just as plants, animals, stones, the air, light, etc., constitute a part of human consciousness in the realm of theory... so too in the realm of practice they constitute a part of human life and human activity.[62]

Here, Nature is regarded as the precondition for the possibility not only of human's life-activity but, most importantly, the possibility of existence in general. Marx further adds:

> Man *lives* on nature – means that nature is his *body*, with which he must remain in continuous intercourse if he is not to die. That man's physical and spiritual life is linked to nature means simply that nature is linked to itself, for man is a part of nature.[63]

To put it simply, human has a dual relationship with nature. On the one hand, nature is a direct means of human subsistence. On the other hand, nature serves as the locus through which human life-activity becomes possible. Man is a species-being because he treats himself as an autonomous, creative, and conscious being. Further, his existence is deeply connected with that of the others and Nature which includes other forms of life. This reconsideration of Marx's species-being transcends the anthropocentric normativity that "man is the measure of all things." The species-being is heterogeneous, namely, it is Nature's representations in multiple modalities. The anthropocentrism of the species-being suffers from ideological abstraction by committing the categorical appropriation of nature and sublating it to mere anthropocentric logic – the epitome of bourgeois ideology.

62 Marx, *Economic and Philosophic Manuscripts*, 75.

63 Marx, *Economic and Philosophic Manuscripts*, 76.

Interestingly, Judith Butler offers a non-anthropocentric reading of Marx's concept of Nature. Recall that Marx in the *Manuscript* considered Nature as humans' inorganic body. It would appear that Marx takes Nature as secondary to humans. However, Butler argues that nature as an inorganic body of humans does not mean that nature is a mere material for human consumption. Instead, Butler maintains that the inorganic body of humans implies that "the human body extends to all of nature, or, conversely, all of nature comprises the human body."[64] The totality of Nature is constitutive of humans' inorganic body. In this light, the inorganic should not be understood as how life is to death. The organic and inorganic are potentials of one another.[65] Butler underlines that "the human creature may belong to his own species, but if that species is one among many such species, and if, as a living species, it is linked with other forms of life, then we have to understand the kind of link or relation that this is."[66] Drawing from Butler's reinterpretation of Marx's dialectical relationship of man and Nature, it can be argued that man's "alienation from the species-being" does not only mean that he is alienated from himself or his fellow men, but, most importantly, he is alienated from the totality of Nature, from other living organisms. Consequently, the alienation from the species-being is a forgetfulness of man's rootedness in the very fabric of Nature. Unfortunately, this forgetfulness of Nature is being accelerated and aggravated by humans' current obsession with the power of artificial intelligence. As a technology whose advancement is being explored in the realm of capitalism, artificial intelligence could only exacerbate social polarization. In this regard, Luciano Floridi suggests that AI can polarize civilization between "those who will be subject and victim of these technologies, and those who will be empowered by these technologies."[67]

## CONCLUSION

The present trajectory of artificial intelligence unfolds the machinic nature of the capital. AI technology is utilized to capture, ignite, and mobilize the general intellect. The totality of life-activity becomes a crucial source of information in the age of an actually existing AI-Capitalism. Pasquinelli holds that "the automated factory made visible the transformation of labour into

64 Judith Butler, "The Inorganic Body in the Early Marx: A Limit-Concept of Anthropocentrism," *Radical Philosophy*, no. 2.06 (2019): 5, https://www.radicalphilosophy.com/article/the-inorganic-body-in-the-early-marx.

65 Butler, "The Inorganic Body in the Early Marx," 5.

66 Butler, "The Inorganic Body in the Early Marx," 5.

67 Murilo Mariano Vilaça et al., "Reflections on the Future of Artificial Intelligence: An Interview with Luciano Floridi," *Filosofia Unisinos* 25, no. 1 (2024): 11, https://doi.org/10.4013/fsu.2024.251.15.

measurable knowledge, that is, information."[68] It implies that the constant conversion of the general intellect into analyzable patterns of data and measurable codes tremendously improves the accuracy and efficiency of AI technology, especially through machine learning and interconnected artificial neural networks. It allows capitalism to instrumentalize artificial intelligence for targeted advertisement, augmenting social biases and prejudices, dissemination of political propaganda, algorithmic micromanagement, digital surveillance, police violence, among others. Thus, the codification of the general intellect enables societal planning on a global scale.

This paper offers the argument that the machine is not an immediate product of techno-scientific advancement; instead, it is an aftermath of the inner conflict between labor and capital, that is, labor continuously demands social recognition, whereas the capital relentlessly explores the possibility of its emancipation from the restriction of and dependency on necessary labor. Accordingly, the machinic utilization of the general intellect subordinates human labor to a mere supplementary position in supervising micro-machinic processes instead of being the principal force in social production. In the age of an actually existing AI-Capitalism, the general intellect is converted into analyzable patterns of data and measurable codes, which accelerate and intensify the automation of labor. The ability of AI technology to capture the general intellect reinforces the desire of the capital to liberate itself from the necessity of human labor. For this reason, the capital is adamant in integrating artificial intelligence into the general condition of production, mediating all social transactions, interactions, and relationships.

However, the instrumentalization of artificial intelligence has an enduring impact on the quality of human's life-activity. AI-Capitalism augments and accelerates the forgetfulness of the species-being. The automation of the heterogeneous modalities of creative activities undermines the qualitative feature of life-activity (labor). History testifies to the tendency of the capital to replace humans with machines. Generations of workers "from handloom weavers to assembly line autoworkers and cold metal print-setters" prove that the total dismissal of automation is deeply ahistorical.[69] The concern about the plausibility of "technological singularity" and artificial superintelligence at the moment remains debatable, if not impossible. But current events unfold that the ongoing deterioration in the qualitative aspect of the species-being is no longer undeniable. Nick Land points out that the mutual embedment of capital and AI leads not to human emancipation from capitalism, but to capital's emancipation

68 Matteo Pasquinelli, "The Abstraction of Labor," in *The Eye of the Master: A Social History of Artificial Intelligence* (Verso, 2023), 131.

69 Dyer-Witheford et al., *Inhuman Power*, 5.

from the human: a capital that no longer needs *homo sapiens*.[70] This statement portends cosmo-extinction on a planetary scale, i.e., the forgetfulness of the species-being.

It dawns upon me that the novelty of simulating intelligence does not rest on replicating human intelligence since there is already an overwhelming presence of human intelligence – an "all human, too human intelligence." Indeed, anthropocentric intelligence that is grounded in the principles of the capital will never resolve planetary problems. The forgetfulness of the species-being is already happening simultaneously in the various plateaus of existence in varying intensity and speed. This is the time to welcome other forms of intelligence, especially those of non-humans – a cosmo-intelligence, so to speak.[71] After all, human intelligence does not represent the totality of cosmic intelligence; rather, it is a modality, a degree in the generality of cosmic intelligence.

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70 Dyer-Witheford et al., *Inhuman Power*, 7.

71 Take, for instance, the University of Montreal initiates the Montreal Declaration Responsible AI which grounds the development of AI on the "well-being of all sentient creatures." See Coeckelbergh, *AI Ethics*, 157.

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