REPOD

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

Between automation and the precarization of labor: human formationunder pressure from artificial intelligence[1]

Entre automação e precarização do trabalho: a formação humana tensionada pelas inteligências artificiais

Entre la automatización y la precariedad del trabajo: la formación humana bajo presión de la inteligencia artificial

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Abstract: This article analyzes the tensions between automation and the precarization of labor in contemporary capitalism, considering artificial intelligence as an expression of the contradictions of capital. From a Marxist perspective, we discuss how artificial intelligences reinforces labor exploitation and alienation, whether by replacing jobs or by intensifying productivity through the extraction of relative surplus value. In education, its adoption is driven by global policies that promote the plataformization and financialization of education through the fetishization of technology, deepening structural inequalities. Artificial intelligences, as a historical product of the social relations of production, does not overcome the contradictions of capital, but rather radicalizes them. We conclude that the counter-hegemonic appropriation of thesis and all technologies requires the political organization of the working class, linking technology to projects of socialization of the means of production.
Keywords*:* Education and Technology; Commodification of knowledge; Marxist Theory of Value.

Resumo - O artigo analisa os tensionamentos entre automação e precarização do trabalho no capitalismo contemporâneo, tomando as inteligências artificiais como expressão das contradições do capital. Sob uma perspectiva marxiana, discutimos como as inteligências artificiais reforçam a exploração do trabalho e a alienação, seja na substituição de postos de trabalho, seja na intensificação da produtividade via extração de mais-valia relativa. Na educação, sua adoção é impulsionada por políticas globais que promovem a plataformização e a financeirização, por meio da fetichização da tecnologia, aprofundando desigualdades estruturais. As inteligências artificiais, enquanto produto histórico das relações sociais de produção, não superam as contradições do capital, mas as radicalizam. Concluímos que a apropriação contra-hegemônica, desta e de todas as tecnologias, exige a organização política da classe trabalhadora, vinculando a tecnologia a projetos de socialização dos meios de produção.

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ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

Palavras-chave*:* Educação e Tecnologia; Mercantilização do conhecimento; Teoria Marxiana do Valor.

Resumen: Este artículo analiza las tensiones entre la automatización y la precariedad laboral en el capitalismo contemporáneo, considerando la inteligencia artificial como expresión de las contradicciones del capital. Desde una perspectiva marxista, discutimos cómo la inteligencia artificial refuerza la explotación y la alienación laboral, ya sea reemplazando empleos o intensificando la productividad mediante la extracción de plusvalía relativa. En educación, su adopción está impulsada por políticas globales que promueven la plataformización y la financiarización de la educación mediante la fetichización de la tecnología, profundizando las desigualdades estructurales. La inteligencia artificial, como producto histórico de las relaciones sociales de producción, no supera las contradicciones del capital, sino que las radicaliza. Concluimos que la apropiación contrahegemónica de esta y todas las tecnologías requiere la organización política de la clase trabajadora, vinculando la tecnología a proyectos de socialización de los medios de producción.
Palabras clave: Educación y Tecnología; Mercantilización del conocimiento; Teoría Marxista del Valor.

Received on: July 31, 2025
Accepted on: September 10, 2025

Introduction

Each historical era brings its own technological devices, heralded by some as the ultimate solution to all problems and by others as the end of humanity. Many of these devices remain in use for years, decades, or even centuries, constantly being adapted to different interests.

In this article, we will focus on the discussion of the technology that has caused a stir in the world, sometimes as a panacea, sometimes as a villain — artificial intelligences. We will explain what underpins capital investment in the unbridled and widespread propagation or diffusion of this panacea, highlighting its inherent contradictions.

The artificial intelligences serves different ends and purposes in our daily lives, but it results from the human process of automating daily life. The automation process stems from the desire to minimize human interference in everyday activities, from choosing the best route in traffic to selling products to one audience or another.

Artificial intelligences is neither unique nor viable in itself, as it is conceived and planned by humans and needs to be reprogrammed and controlled on a daily basis. It emulates the human ability to identify and create patterns of similarity. In the process of automating human activities in society, algorithms are responsible for building categories, or patterns, based on the data received. For this activity, they need large amounts of data on a daily basis.

ISSN 2238-8346
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They do not solve the daily survival challenges of the majority of the global population. Far from reducing inequalities, they amplify them, including by simulating human understanding and a supposed ability to solve social issues — when, in fact, their production and use consolidate the conditions that generate these inequalities.

In this article, when we adopt the term artificial intelligences (in the plural), not as a mere stylistic device, but rather as a theoretical and political position that refutes homogenizing and deterministic views of technology. Although the plural form itself does not solve the problems arising from the human intentionality behind artificial intelligences - such as their use for standardization, control, and expansion of consumption — it opens space for the necessary problematization, ensuring the principle of contradiction in the debate on the topic.

This is because we understand that artificial intelligences are a synthesis of multiple social determinations (Marx, 2011) and, like all technology, are not neutral artifacts, but material expressions of production relations (Peixoto, 2022). Thus, they are plural in their genesis, resulting from different projects of society, with antagonistic objectives, and being appropriated unequally.

In the next section, we will address the relationships between artificial intelligences and the global movement for educational reform. Next, we will problematize artificial intelligences as instances of labor exploitation and alienation, whether in the replacement of jobs or in the intensification of productivity via the extraction of relative surplus value. Our arguments will point to the fact that artificial intelligence, as a historical product of social relations of production, does not overcome the contradictions of capital, but rather radicalizes them, highlighting the immanent crisis of a system that, by automating production, exhausts its own source of value, which is human labor. Finally, we will point to possible paths of counter- hegemonic appropriation of this and all technologies, which requires the political organization of the working class, linking technology to projects for the socialization of the means of production.

Artificial intelligences and the global movement for educational reforms

For large technology corporations, information and knowledge are configured as data to be systematized and standardized, constituting the main source of power and wealth accumulation. In this context, education plays a strategic role for the owners of the means of production, since national and international economic programs are directly related to their perception as a factor of productivity and social and cultural transformation that may or may

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

not take effect in the world. The educational system is then used as a means of legitimizing the notorious forms of stratification and social division.

The bourgeois state becomes small for civil society, but for the market and the bourgeois class, it proves to be more efficient and generous. It uses the discourse of guaranteeing economic stability to justify adherence to the policies proposed by multilateral organizations in order to gain access to financing (Otto, 2021).

In the Brazilian context, the opening of our economy to foreign capital was an important instrument for the educational reforms promoted by multilateral organizations in the actions of the State. Based on the idea of education as a fundamental right, the "adjustments" mediated by agencies such as the United Nations (UN), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Organization for Economic Cooperation and Development (OECD), and the United Nations Children's Fund (UNICEF) gained ground (Uchoa; Lima; Sena, 2020; Peixoto; Echalar, 2017).

To ensure the logic of capital accumulation, which is extremely individualistic and competitive, financial capital aims to promote the adjustment of Brazilian educational policy to the globally structured agenda. In this context, the movement of corporate reformers of the educational model was inspired by the ideals of the American movement called *No Child Left Behind* and, in the Brazilian context, by the movement "Todos pela Educação" (All for Education); from this perspective, corporate leaders work to ensure that the entire educational process is in accordance with the principles established by multilateral organizations (Freitas, 2018).

The movement to make education more flexible, regulated by the economic and political transformations of the 1970s, intensified when the most economically and industrially developed countries began to raise the need to introduce digital technologies in developing countries. Networked digital technologies have been appropriated as a privileged resource for the implementation of the neoliberal-based educational model, which has justified state control over school programs, labor, and teacher formation.

That's why

> The bourgeoisie cannot exist without permanently revolutionizing the instruments of production, and therefore the relations of production, and therefore all social relations. [...] This continuous subversion of production, this constant shaking up of the entire social system, this permanent agitation and lack of security distinguish the bourgeois era from all previous ones. [...] Driven by the need for ever new markets, the bourgeoisie invades the entire globe. It needs to establish itself everywhere, exploit everywhere, create links everywhere.
> Through its exploitation of the world market, the bourgeoisie has given production and consumption in all countries a cosmopolitan character. [...] (Marx; Engels, 2005, p. 43, translated by authors).

ISSN 2238-8346
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It was from this compulsion for innovation, guided by the logic of accumulation, that the bourgeoisie promoted an unprecedented leap in the development of productive forces, including technique, technology, and science applied to production.

The uniqueness of neoliberal policies for digital inclusion via the school environment is based on the capitalist model, concealing — under educational guidelines that propagate the "compensation" of the so-called less favored through access to digital devices — the production of a competitive workforce.

In the context of capitalist hegemony, policies for the insertion of technologies in schools, including those that deal with artificial intelligences as a neutral instrument aimed at solving educational problems, increase the alienation of labor through the standardization of life, bodies, work rhythms, and minds in the context of a "digital culture," which generates more means of exploitation. Furthermore, they ignore those excluded due to the material and symbolic inequalities that mark the world of labor and social relations, as well as the different cultures we have in every corner of this country.

Recommendation algorithms, used by platforms such as Meta (*Facebook*), *Instagram*, and *TikTok*, are tools geared toward entertainment and sales. User preferences are calculated based on likes and viewing time to predict what content will hold their attention. In this way, they categorize consumption profiles and select videos, *posts*, and ads to be displayed, increasing usage time and optimizing advertising delivery.

There are also algorithms such as chatbots, called generative (*ChatGPT*, *Gemini*, *Copilot*, or *DeepSeek*, for example), which prioritize some form of communication. They appear to "imitate" human conversations, writing texts and answering questions, because they are programmed to respond to commands proposed by the user (synthesize a text, answer questions, access information, present recipes, etc.) based on access to gigantic databases, generated daily by Internet users, from which they identify and construct patterns for responses.

Industrial automation systems consist of robots in car factories or temperature control systems (which adjust the temperature in ovens or cold rooms, for example). They are proposed as systems that replace manual labor with programmed machines. They use sensors and programming to perform repetitive activities and, thus, assemble cars or package products, controlling machines to perform repetitive tasks. This allows for increased speed and reduced production costs.

In short, artificial intelligences are presented as functional tools, capable of saving time, promoting productivity, innovation, and modernization in society, and therefore also in

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

the school environment. Instead of expanding and democratizing information and becoming part of the daily lives of millions of Brazilians, artificial intelligences became a mechanism for surveillance and standardization of behavior through data extraction and intensification of surplus value, including the direct exploitation of precarious workers to train algorithms (Echalar, 2025).

Addressing social inequalities through digital inclusion policies is an idea that omits precisely the contradictions we are interested in highlighting. Digital exclusion does not originate from different forms of access to technological goods, but from class conditions, which, in turn, are explained by the mode of economic production. Access or even equality in the use of networked digital technologies cannot reverse the process that generates inequalities in access to knowledge, teaching and learning. Such mechanisms are, in fact, generators of forms of exclusion that, in turn, generate new mechanisms of social inclusion for the reintegration of the excluded.

In the educational context, we see policies, programs, and guidelines for the ethical use of artificial intelligences distorting reality by claiming to free teachers from "technical tasks" and students from tedious activities when, in fact, they obscure the dichotomy between technical and pedagogical aspects, individualization and the process of concealment of the complexity that is the process of teaching and learning.

Artificial intelligences in the extraction of relative surplus value

Marx conceives capitalism as a mode of production based on the exploitation of labor power, whose productive consumption in the labor process is considered the main source of value creation (Marx, 2011, 2017a). Capitalists seek to obscure workers' contribution to the production process, while workers strive to have their contribution recognized. The struggle between capitalists and workers over working time is therefore fundamental to the process of valorization of capital, since the capital-labor antagonism is structured around the capture and exploitation of unpaid working time.

A fundamental assumption is that, under capitalism, human workers are the only source of surplus value (Marx, 2011, 2017a). In the Marxian discussion — which ranges from production-distribution to exchange-circulation — as well as in the analysis of the production of relative surplus value, we recognize fundamental elements for understanding the current configuration of artificial intelligences as synthesis of multiple determinations. This is done with the aim of escaping the technocentric instrumental and deterministic reading of technology.

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The antagonistic capital-labor relationship operates in one of the sectors of the precarious global economy: platform labor, in which the algorithm-based time control system contributes to the exposure of workers to unpaid working time. More specifically, the ways in which algorithms allocate tasks and monitor the performance of platform workers lead to the creation and expansion of unpaid working time, the execution of which is, however, essential to access and complete the (paid) tasks for which the platforms "employ" workers (Silveira, 2024).

The value of a commodity corresponds to the direct and indirect labor employed in its production. This value does not treat labor as a generic commodity, but as the foundation of all exchange value. This is because, in order to generate surplus value, a commodity must be capable of originating negotiable value, which is the exclusive property of the workforce. "By labor power or capacity for work, we mean the complex [*Inbegriff*] of physical and mental capacities that exist in the corporeality [*Leiblichkeit*], in the living personality of a man, and which he sets in motion whenever he produces use values of any kind" (Marx, 2017a, p. 242, emphasis added, translated by authors).

The labor force — like all commodities — has a value that refers to the socially necessary labor time required for its reproduction. This is the average time required, considering the dominant technical level under normal conditions of production, to produce a given commodity. Without the means of production, workers are forced to sell the only thing they can monetize — their labor power — to obtain the resources necessary for their subsistence.

During a certain period of their working day, wage earners only reproduce the value of their labor power (the socially necessary labor time to reproduce it), producing the equivalent of what the capitalist paid to employ them (the price of labor). Beyond this period, the use of labor power gives rise to surplus labor. This period of unpaid activity for the employee is the source of surplus value. The ratio between the value it creates and the value it costs the capitalist is the rate of surplus value, or rate of exploitation. The rate of exploitation can be increased in two non-exclusive ways: by increasing the length of the working day, which generates absolute surplus value, or by decreasing the value of labor power, which generates relative surplus value.

The reproduction and accumulation of capital are the pillars of capitalist society, sustained by the circulation of capital and the extraction of surplus value**.** This dynamic is marked by the relentless acceleration of business and the exploitation of the labor force**.**Since capitalist accumulation depends on the realization of surplus value**,** capitalists constantly seek to maximize their profits through the use of the following resources: (a) extending the

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

working day or intensifying the pace of production (increasing exploitation) and (b) implementing machines and methods that increase productivity and accelerate the circulation of capital ("technological innovation").

The quest for greater efficiency and speed not only increases the extraction of surplus value**,** but also reinforces the domination of capital over labor**,** maintaining the logic of accumulation. Capitalism is a particular mode of appropriation of surplus or surplus value, which stems from the realization that only labor creates value (Antunes, 2009, 2018; Harvey, 2022, 2016). Machines and raw materials, which are themselves the product of previous labor, can only transmit their value by increasing the productive power of labor.

The productivity of technology is measured by the extent to which it replaces the force of labor. "Like any other component of constant capital, machinery does not create any value, but transfers its own value to the product for whose production it serves" (Marx, 2017a, p. 460, translated by authors). For the adoption of a given technology to be profitable, the labor objectified by it in/through technology must be less than the living labor it replaces. This is because the capitalist does not simply seek less labor, but rather more unpaid labor (surplus value). Even with increased productivity (which reduces the total labor required), what matters to capital is that the worker produces more value than he receives in wages. In other words, profit does not arise from the reduction of total labor used, but rather from the reduction of effectively remunerated labor.

The claim that machinery is a source of value and even surplus value is based on an acceptance of the appearances of the capitalist economy. On the one hand, machines create additional use values and increase labor productivity. But the claim that this gives rise to surplus value is based on a confusion between use value and exchange value. The production of material wealth and the production of surplus value and profit are not the same thing. If it is possible to produce more in a given period of time, use values, material wealth, will have increased, but the exchange value of each commodity will have decreased, as it now incorporates less labor time (Antunes, 2009, 2018).

Another purely apparent aspect is that, for the company, the introduction of new machines generates greater profits, as they can increase productivity or even eliminate labor, reducing production costs. However, in the process of distribution and consumption (exchange), what manifests itself is the value of the commodity as a product, and not the specific type of labor that was used in its production. While general labor is expressed in exchange value, concrete labor affects the qualities of the commodity, that is, its use value. What gives a commodity exchange value is the

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

amount of abstract human labor, general human labor, that it incorporates. Marx highlights the objective social process, the exchange of commodities. "If, then, we cease to consider the use value of commodities, they have only one common property left, that of being products of labor" (Marx, 2017a, p. 45, translated by authors).

In short, the capitalist must be able to find in the sphere of circulation a commodity whose use value, realized in the process of consumption, is such that it has the property of being a source of value. This commodity is labor power, the ability to work, which the worker sells to the capitalist. Its use value is realized in the production process itself. The consumption of the commodity 'labor power' occurs in the production process in which labor works on machines and transforms the raw materials (means of production) that were purchased by the capitalist. The value incorporated in these means of production is preserved in the final commodity.

To understand reality, it is necessary to go beyond immediate appearances and see what is happening behind the scenes of the capitalist enterprise. The introduction of machinery can lead to an increase in the accumulation of surplus value without, however, producing value. The machine itself does not add any new value, it passes on the value incorporated into it. Technology itself does not add any additional value to the commodity.

The introduction of the machine into a production process will lead to an increase in the rate of surplus value extraction, as it increases productivity and reduces the time it takes for the worker to reproduce the value of their own labor power, thus increasing the time they perform unpaid labor for the capitalist. It is this process that gives rise to the illusion that the machine is the source of additional surplus value!

More productive machines allow more products to be manufactured in the same period of time, but their value (production cost) is diluted among a larger number of items. Thus, although the machine as a whole has a fixed value, each unit produced incorporates a smaller fraction of that value. So, the higher the productivity of a technology, the lower the value it transfers individually to each commodity produced:

> [...] the development of mechanized production fixes an ever-increasing part of capital in a form in which, on the one hand, it can be continuously valorized and, on the other, it loses its use value and exchange value as soon as its contact with living labor is interrupted. (Marx, 2017a, p. 478, translated by authors).

We can thus understand the double effect of the appropriation of technologies by the production process in the generation of relative surplus value: (i) reduction in the cost of reproducing the workforce, since by making basic consumer goods cheaper, it reduces the value necessary for the production and reproduction of the conditions of the worker's

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

existence; (ii) increased productivity and reduced individual value of goods, given that, by depreciating the cost of wages, paying less for labor, it increases the unpaid portion of the working day and, consequently, surplus value.

> The machine produces relative surplus value not only by directly devaluing the workforce and indirectly making it cheaper by lowering the price of the goods that go into its reproduction, but also because, in its first sporadic application, it transforms the labor employed by the owner of the machines into enhanced labor, raises the social value of the machine's product above its individual value, and thus enables the capitalist to replace the daily value of the labor force with a smaller portion of the daily product's value (Marx, 2017a, p. 479, translated by authors).

This dynamic makes it clear that, under capitalism, technical progress deepens the subsumption of labor to capital. However, there are limits to the devaluation of the labor force and the intensification of labor exploitation. This is because, when the machine becomes dominant, it can reduce the socially necessary labor time, causing the social value of the commodity to fall and reducing surplus value. This reduction in surplus value will compel capital to intensify exploitation by extending the working day, intensifying the pace of work, or laying off workers, generating crises of overproduction and unemployment.

> If, therefore, the capitalist use of machinery creates, on the one hand, new and powerful reasons for the excessive lengthening of the working day, revolutionizing both the mode of work and the character of the social body of labor, and thus breaking resistance to this trend, it produces, on the other hand, partly by recruiting for capital strata of the working class that were previously inaccessible to it, partly by releasing workers replaced by machines, a redundant working population forced to accept the law dictated by capital (Marx, 2017a, p. 480, translated by authors).

Hence the contradiction inherent in the process of using technology in the production of surplus value.

> Hence this remarkable phenomenon in the history of modern industry, namely that the machine breaks down all moral and natural barriers to the working day. Hence the economic paradox that the most powerful means of shortening the working day becomes the infallible means of transforming the entire lifetime of the worker and his family into working time available for the valorization of capital (Marx, 2017a, p. 480, translated by authors).

In other words, under capitalism, technology is an instrument for extracting surplus value. Increased productivity and accelerated accumulation through the expansion of surplus value represent an intensification of worker exploitation and the precariousness of labor through unemployment, informality, and the loss of rights. A relationship of domination is consolidated when the demands of capital appreciation transform the means of production (machines, technology, work organization) into instruments of control over the working

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

class. In this way, capitalist development, by subjecting living labor to the rationality of capital, converts technical progress into a weapon against the working class, revealing the antagonistic nature of this mode of production.

What would be the value of human labor in a world with artificial neural networks, machine learning, service automation, or artificial intelligences? The equation is not so simple, it involves complex relationships that are established in the circuit of production and social exchange. No matter how sophisticated the algorithms that reproduce or represent the circuit of production and social exchange may be, capturing and manipulating sensitive social data, they do not alter the fact that the capitalist who owns the machines, equipment, and so-called intelligent systems does not produce use value, but only exchange value. Machines, systems, and algorithms can be a source of profit only to the extent that they produce exchange value and, in this sense, can be treated as constant capital, since they themselves are commodities subject to competitive markets.

It is not human labor in general that constitutes a source of profit; the source of profit in capitalism is wage labor. The interest is not in tracking the total amount of use values that can be produced over time, but in explaining the social forces that drive the historical development of capitalism as a mode of production. The driving force of capitalism is not the production of wealth in general, but of private profit; it is not the production of use values (the value of a commodity to a user), but of exchange values (how much it is worth on the market in terms of other commodities). Therefore, technologies, however advanced they may be, cannot be an infinite source of profit, not because they lack power, but because they themselves are commodities in the capitalist market.

The capitalist, by controlling the means of production, appropriates the profits. The working class, meanwhile, lives on wages that are driven to subsistence levels by the market. Thus, no matter how much technology advances, no matter how much wealth humanity accumulates, the working class does not share in the profits. The more the capitalist system advances, the more evident the contradiction becomes between the enormous surplus that can be produced, on the one hand, and the inability to satisfy human needs, on the other. This will become more evident to the working class as the speed of the development of digital technologies increases.

However, the widespread automation of the economy undermines the very foundations of the system. Because when production dispenses almost entirely with human labor — the exclusive source of surplus value — the rate of profit collapses, revealing the historical limits of the capitalist mode of production. Artificial intelligences, as historical products of social relations of production, does not overcome

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

the contradictions of capital, but radicalizes them, highlighting the immanent crisis of a system that, by automating production and life, "exhausts" its own source of value: human labor. In this way, artificial intelligences, far from being a solution, would thus be the ultimate expression of the internal contradictions that lead the system to yet another structural crisis.

> A development of the productive forces that would reduce the absolute number of workers, that is, that would, in fact, enable the entire nation to carry out its total production in a shorter period of time, would provoke a revolution, as it would leave most of the population out of work. This once again demonstrates the specific limitation of capitalist production and the fact that it is by no means an absolute form for the development of productive forces and the generation of wealth, but rather a form that, on the contrary, as soon as it reaches a certain point, collides with this development (Marx, 2017b, p. 303, translated by authors).

The capitalists are betting heavily that these technologies will allow them to drastically cut costs by replacing jobs or laying off workers (Antunes; Filgueiras, 2020; Morozov, 2018; Rocha Filho; Araújo, 2024; Zuboff, 2020). This is aimed both at making labor more precarious and at radicalizing workers with a view to intensifying the class struggle. For these reasons, financial resources have been invested in the implementation of artificial intelligences in practically all sectors of the economy.

Resistance to the precariousness and automation of human labor

The counter-hegemonic appropriation of this and all technologies requires the political organization of the working class, linking technology to projects for the socialization of the means of production. To overcome capitalism in crisis and technological slavery, the working class will have to appropriate automated industry and put it to work as the collective property of humanity, democratically owned and managed. However, such action presupposes real knowledge of reality and the consequent class struggle.

The struggle leads us to understand the precariousness and possibilities of confronting artificial intelligences; a confrontation that can enable the construction of intentional resistance to the precariousness of automated work, since the artificial intelligences systems are totally dependent on human beings in the process of maintaining data centers, improving the process of collecting and processing data that will be used in the construction and automation of patterns for life.

Although determined by the mode of production, artificial intelligences expresses the contradiction present in reality in their production, appropriation, and effects. Therefore,

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

they intensify exploitation through the platformization of education or the uberization of labor in general. They can also be appropriated by social movements such as the Landless Workers' Movement (MST) and the Homeless Workers' Movement (MTST), not as a source of profit, but to democratize access to labor and strengthen solidarity networks.

The creation, by the MTST, of the *Contrate Quem Luta* (Hire Those Who Struggle) platform registers professionals from various fields, allowing potential clients to contact the desired service by directing them to a professional. In addition, we could also talk about the development of rural extension experiences in China through mechanization and the use of artificial intelligences applied to small-scale production (MST, 2025).

Understanding the concrete reality, in its multiple determinations, is the starting point for resisting the technocentric logic and foundations of the society we have, in order to build the society we want.

References

ANTUNES, R.; FILGUEIRAS, V. Plataformas digitais, Uberização do trabalho e regulação no Capitalismo contemporâneo. *Contracampo*, Niterói, v. 39, n. 1, p. 27-43, abr./jul. 2020. DOI: http://dx.doi.org/10.22409/contracampo.v39i1.38901.

ANTUNES, R. *Os sentidos do trabalho:* ensaio sobre a afirmação e a negação do trabalho. 2. ed. São Paulo: Boitempo, 2009.

ANTUNES, R. *O privilégio da servidão:* o novo proletariado de serviços na era digital. São Paulo: Boitempo, 2018.

ECHALAR, A. D. L. F.; PEIXOTO, J. Programa Um Computador por Aluno: o acesso às tecnologias digitais como estratégia para a redução das desigualdades sociais. *Ensaio.* Avaliação e Políticas Públicas em Educação, Rio de Janeiro, v. 25, n.95, p. 393-413, 2017. DOI: http://dx.doi.org/10.1590//s0104-40362017002501155.

HARVEY, D. *Os limites do capital.* Edição revista e ampliada. Tradução de Magda Lopes. São Paulo: Boitempo, 2022.

HARVEY, D. *Dezessete contradições e o fim do capitalismo.* Tradução de Rogério Bettoni. 2 ed. São Paulo, Boitempo, 2016.

MARX, K. *Grundrisse:* manuscritos de 1857-1858: esboço da crítica da economia política. São Paulo: Boitempo: Rio de Janeiro: Ed. UFRJ, 2011.

MARX, K. *O Capital:* crítica da economia política: livro I: o processo de produção do capital. São Paulo: Boitempo, 2017a.

MARX, K. *O Capital:* crítica da economia política: livro III: o processo global da produção capitalista. São Paulo: Boitempo, 2017b.

ISSN 2238-8346
DOI: https://doi.org/10.14393/REPOD-v15n1a2026-80946

MARX, K; ENGELS, F. *Manifesto Comunista.* 4a reimpressão. Tradução: Álvaro Pino. São Paulo-SP: Boitempo, 2005.

MOROZOV, E. *Big Tech:* a ascensão dos dados e a morte da política. São Paulo: Boitempo, 2018.

MST. Movimento dos trabalhadores rurais sem terra. *Brasil e China lideram parceria do Sul Global por agroecologia e soberania alimentar*. 2025. Disponível em: https://mst.org.br/2025/04/09/brasil-e-china-lideram-parceria-do-sul-global-por-agroecologia-e-soberania-alimentar/. Acesso em: 15 abr. 2025.

OTTO, A. L. N. *Políticas de formação continuada de professores de Ciências da Natureza na rede estadual de educação de Goiás*: ciência e tecnologia em questão. 2021. 122 f. Dissertação (Mestrado em Educação em Ciências e Matemática) - Universidade Federal de Goiás, Goiânia, 2021.

PEIXOTO, J. Contribuições à crítica ao tecnocentrismo. *Revista de Educação Pública*. v. 31, p. 1-15, 2022.

ROCHA FILHO, R. A.; ARAÚJO, J. Cultura e estratégia nacional para o desenvolvimento de políticas audiovisuais de amplo espectro na economia criativa. *Princípios*, São Paulo, v. 43, p. 66-87, 2024. DOI: https://doi.org/10.4322/principios.2675-6609.2024.169.005.

SILVEIRA, S. A. Ideologia da transformação digital. Automatismos, solucionismos e alienação técnica. *Linguagem em Foco*, Fortaleza, v. 15, p. 11-25, 2024. Disponível em: https://revistas.uece.br/index.php/linguagememfoco/article/view/12380. Acesso em: 8 abr. 2025.

UCHOA, A. M. da C.; SENA, I. P. F. de S.; GONÇALVES, M. E. S. (Orgs.). *EAD, Atividades remotas e ensino doméstico*: cadê a escola? Porto Alegre, RS: Fi, 2020. Disponível em: https://drive.google.com/file/d/1cf4J5zkk6IHaWILbfZ0eZiUmcSC_9T5l/view. Acesso em: 20 jul. 2025.

ZUBOFF, S. *A era do capitalismo de vigilância:* a luta por um futuro humano na nova fronteira do poder. 1. ed. Rio de Janeiro: Intrínseca, 2020.