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# Uberization Political Economy: Worker Exploitation Regarding Three Forms of Work Intermediation in Platform Companies

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## Abstract

A wide range of studies has emerged on the precariousness of uberized jobs. Nonetheless, there is a gap regarding how these precarious jobs are integrated into the global movement of private valuation and appropriation of the workforce. Thus, this essay aims to apprehend the movement of capital reproduction whose material base occurs in the digital platform dynamics, demonstrating the different forms of intermediated work engendered in the global accumulation process. Using a historical materialist approach, we analyze the phenomenon of uberization in the expansion movement of the production and circulation of goods, scrutinizing the dynamics of big platform companies regarding their relationship with workers and customers, revealing mediations in the movement of values, which culminates in three forms of labor intermediation: (a) Form 1: as a commodity for individual consumption; (b) Form 2: as part of the work processes of industrial capital; and (c) Form 3: as a moderator of exchange relationships. We conclude by indicating that the three forms of uberized products help us to understand how this commodity production process

submits men and women to precarious working conditions and increased exploitation. Furthermore, forms 2 and 3, which are more complex and mediated, demonstrate how uberization spreads across the production chain and facilitates the extraction and attraction of surplus value elsewhere, denoting the imperialist character of capitalist dynamics today.

**Keywords:** uberization; digital platforms; platform companies; work relationships; political economy

## Introduction

Digital platforms have become ubiquitous in capitalist sociability as mediators of economic transactions, commercial exchanges, communicative interactions, or news dissemination. The use of platforms in the economy (Montalban, Frigant, & Jullien, 2019) has covered phenomena named differently – among the most notable are: uberization, Industry 4.0, big techs, the sharing economy, and platform capitalism. Usually, the analysis becomes circumscribed to the most apparent changes, according to the area of knowledge, focusing, for example, on changes in the legal field (Fiorentino, 2019), technology (Davis & Sinha, 2021), work organization (Filgueiras & Antunes, 2020), and social control (Weiskopf & Hansen, 2022). As we will demonstrate, these are concatenated elements that make up the current conformation of capital in its imperialist movement, which reorganizes the moments of overall value production (production, circulation, and consumption) to achieve the movement of accumulation - surpassing geographical and economic limits and reordering labor laws to establish new forms of exploitation of workers.

In the case of studies concerned with revealing the consequences of technology for relations and working conditions, they are linked to the term uberization – understood as the process of expanding the intermediation of paid work via digital platforms (Franco, 2020) – and, overall, they conclude that there is a preponderance of losses of rights for the working class (Oliveira, 2021; Soares, Constantino, & Guimarães, 2021). Regarding the sharing economy, sometimes treated indistinctly in the work intermediation platforms, we observe a natural concern for investigating the cultural and policy aspects involved in the use of peer-to-peer platforms that allow exchange relationships, loans, or leases of assets (Costa-Nascimento, Teodósio, & Pinto, 2021; Spalenza & Rigo, 2021). The term Industry 4.0, in turn, is reserved for research that deals with the potential of new automation and connective technologies to increase productivity (Caruso, 2018; Paula & Paes, 2021).

The complete expression of these recent phenomena, which at the same time are less explored in essence, is found in productive processes mediated by digital platforms. Fuchs and Sandoval (2014) maintain that, currently, almost all paid work activities involve some digital aspect, so just highlighting platform work or uberization, apart from the material conditions of its production, expresses a limit in the apprehension of the movement of capitalism of our time. Among the platforms – the great corporate symbol of these times – the best known is Uber, from which the term uberization comes. But the giant of the Gig Economy (the name currently used to designate a free market system in which temporary positions are common and organizations hire independent workers for short-term commitments) is far from being the only company that has operated through digital platforms to connect customers and service providers, even though the services provided, as

we will see, are often nothing more than trivial activities and much less “technological” than they appear.

In addition to other digital urban mobility platforms (99, Cabiby, EasyGo, Televo, WillGo), there is no lack of examples of service platform companies, such as the “Ubers of cleaning” (Faxina da Hora, Diaríssima, Handy, Helpling, Myfixpert), the “Ubers of deliveries” (Loggi, Rappi, Ifood, UberEats), the “Ubers of freight logistics” (Fretebras, Sontra Cargo, Truckpad), the “Ubers of small repairs” (Mister Fix, Parafuso, TaskRabbit), the “Ubers of medical appointments” (Boa Consulta, Doctoralia, Docway, Dokter, Doutor Já, Saúde Já), the “Ubers of beauty” (EasyLook, Singu, SPA At Home, TokBeauty, Youbela, Zauty), and the “Ubers of private classes” (Colmeia, Sharingacademy, Superprof), among many others that appear recurrently.

In the immediacy of life, all these companies present themselves as mere mediators between the service provider and those who need it. Behind the application (app) with a friendly interface, which allows such mediation, there is a complex structure that involves machine learning, big data, artificial intelligence, algorithmic management, the internet of things, energy consumption, etc., that is, all manifestations investigated by scholars of technological advances characterized as belonging to Industry 4.0 (Schwab, 2019).

Recent academic literature has already highlighted, with relative frequency, the precariousness of uberized jobs, demonstrating their length of workday (Souto Maior & Vidigal, 2022), lowering of wages (Pires & Pinto, 2020), control instruments (Franco & Ferraz, 2019), and informality level (Abílio, 2020). However, there is a gap regarding how these precarious jobs are integrated into the global movement of valorization and private appropriation of value. Analyzing the abstracts of published articles in databases such as Scopus, Web of Science, and SciELO, searching for the terms uberization or platform-work, we observed that no work was dedicated to an effort like ours, focusing on theoretically understanding the action of paid-work-intermediation platforms based on critical categories of their economic policy. Thus, this study aims to apprehend the movement of capital reproduction whose material base occurs in the digital platform dynamics, demonstrating the different forms of intermediated work engendered in the global accumulation process. It is a historical materialist investigation that exposes the phenomenon of work's uberization in the movement of production expansion and goods circulation through labor intermediation platforms, revealing mediations in the value movement.

According to Faraj and Pachidi (2021), organizational theorists have been reluctant to address the constitutive relationship between technology and organizing<sup>1</sup> and have commonly limited technology as an exogenous variable. For the authors, uberization challenges existing organizational molds and brings a new conformation to capitalism, enhanced by technology. In the current scenario, workers are presented as platform contractors while submitting themselves to visibly stricter algorithmic coordination and surveillance mechanisms. Also, according to Davis and Sinha (2021), there is a concern with the new challenges of organizational theory to apprehend the current period of economic transition. For them, uberization is for the labor market, as financialization is for the capital market, arguing that both movements have directly outlined and interconnected the forms that organizations have assumed. Davis and Sinha (2021) argue that to understand present and future changes in entrepreneurial companies, there is a need to unpack the communication technologies that unite the various organizational components.

Eric Tucker (2020), aiming at categorizing platform-mediated works in a dialogue with Karl Marx's critique of political economy, establishes two analytical categories of platform-mediated works: (a) a platform-mediated groundwork, which is executed locally after the virtual meeting promoted by the platform; and (b) a platform-mediated cloud work, which involves providing online services to business customers. Although Tucker highlights, from this approach, the possibility of identifying differences in the form surplus value is extracted, the proper categorization, based on the work execution process (face-to-face or virtual), is a limiting factor to understanding such differences since it does not take the category "value" as a guideline for the characterization of these types of work.

This essay exposes, therefore, the theoretical apprehension of paid jobs intermediated by digital platforms. Presenting three analytical categories, having the support of Marx's critique of political economy (in which the category value assumes prominence), we analyze the specific products of each business model of the intermediary platforms. This theoretical effort could serve as a subsidy to advance, also, on the possible distinctions of the predominant profile of the workers, the modes of resistance, the instruments of control in each of the forms, and the integration of each of these works into the global business chains – as we point out in more detail in section 3. This theoretical contribution assembles organizational and other fields of social sciences studies, with the unveiling of the roles assumed by workers whose work activity is intermediated by platforms, demonstrating the dominance of large companies (which own digital technologies) over the current social nexus, uniting the most sophisticated technological instruments to the revamped processes of precarious work – transforming the so-called odd job a potential source, direct or indirect, of the capitalist accumulation.

This article is also structured into three other parts: first, we present the three forms of work intermediation apprehended on the investigation of the companies-platforms acting on the market; afterward, we bring notes on the possibilities of a research agenda that emerge from our theorization; and finally, we complement and expand the contradictions developed throughout the text.

## **The commodity and specific forms of product on work intermediation platforms**

Investigating a range of digital intermediation platforms, apprehending singularities that can be grouped into particularities about how they produce, circulate, and appropriate value, we categorize the three main specific ways in which these platforms manifest their product/commodity as an **intermediated service**:

- Form 1: as a commodity of individual consumption<sup>2</sup>;
- Form 2: as part of the work processes<sup>3</sup> of industrial capital;
- Form 3: as a moderator in exchange relationships.

For now, as preliminary caveats, we highlight that: (a) the same work content can be expressed in more than one product category on the platforms since the listed categorization

specifies the value movement, not the type of intermediated service; and (b) similarly, in the concreteness of socioeconomic relations, a platform will not necessarily express its products in just one of the forms, and there may be hybrid platforms.

Even with these caveats, the proposed categorization will allow us to apprehend value movements more accurately, as we will see later. Therefore, this section will present the general characteristics of these three forms linked to the platforms responsible for each product category.

### *Form 1: The intermediated service as a commodity of individual consumption*

Marx (1978) explains that being productive is a general characteristic of work, and being productive is expending energy that results in a use value, having some utility. However, with the development of capitalist sociability, production assumed determined forms so that not all work that produces use value can be considered productive. From the perspective of the capital, the same type of work can be productive, unproductive, or reproductive since it is not the work content that determines its role in the accumulation dynamics but its function in the valorization process based on the movement of capital reproduction – discussion developed in Dias (2006), and Souza, Ferraz and Maciel (2019).

According to Dias (2006), the apprehension of work as productive, unproductive, or reproductive takes place according to the perspective of its functionality for the capitalist and not for the worker. In the accumulation cycle, the productive work operates the value production, and the unproductive one act in the circulation processes of metamorphosis and value realization – therefore, they do not produce value or surplus value, although they realize them. Productive and unproductive workers act at moments of the valuing value process, and both are wage earners who have part of their workday divided into paid and unpaid work time. Concerning the productive worker, the unpaid portion is the source of surplus value; for the unproductive one, this part is a reduction in the cost of production factors involved in the value realization, as can be seen in book II of Capital (Marx, 2014).

In the case of labor objectified in services produced within a cycle of capital appreciation, these are constituted as products of the capitalist industry. These services are commodities: they contain use value and value. As it could not be otherwise, they are commodities arising from the value production and surplus value processes. This is an important consideration since it stresses that there would be only surplus value production in factories of tangible products when, in fact, the valorization movement is related to surplus value production and realization concerning the production and circulation of use value for tangible or intangible goods. The service sector, therefore, is understood as the sector where the commodity's use value is the useful effect of work itself and not the production of a use value embodied in an object for consumption after the exchange. For example, in the transport industry, the use value of the merchandise sold is the displacement which can only be consumed during the proper production process. Marx (1978) illustrates that the difference between productive and unproductive work is not given by its nature:

an actor, for example, or even a clown, according to this definition, is a productive worker if he works in the service of a capitalist (an entrepreneur) to whom he returns more labor than he receives from him in the form of wages; while a jobbing tailor who comes to the

capitalist's house and patches his trousers for him, producing a mere use-value for him, is an unproductive worker. The former's labor is exchanged for capital and the latter's work for revenue. The former's labor produces a surplus value; in the latter's, revenue is consumed. (p. 137)

The useful effect of the clown's work, if inserted within a cycle in which money is invested as capital (D-M-D'), is, for him, productive work; and the clown's wage is, from the point of view of the capital, variable capital. On the other hand, the work of the tailor who provides the capitalist with the use value of the pants he will wear, which will not serve him for mercantile exchange, is unproductive in the eyes of the capitalist since the money used in value exchange will not correspond to a variable capital. The purchase of pants – the product of a tailor's work – is mediated by money that does not act as capital but as revenue of the capitalist, even though its origin is in the surplus value appropriated in the exploitation process of the working class.

Considering the production of services inserted in the dynamics of capitalist accumulation, both a musical concert and a gardening service can be goods pregnant with surplus value. They are goods – entertainment in the former, garden maintenance in the latter – having use value and surplus value expressed in exchange, allowing capital accumulation. Ultimately, the fact that this process is mediated by information and communication technology (ICT) does not change the process of valuing value.

The central issue here is whether or not these workers act linked to a capital that employs them so that, when working, they produce the equivalent value of their salary and a surplus value, the surplus value (in the case of productive workers) or if they operate in the realization of the metamorphoses of value within the sphere of circulation (in this case, unproductive workers) or, still, if they are workers who produce use values and are outside the valorization processes (in this case, the tailor and his unproductive work for an individual of the capitalist class).

Considering the music worker and the gardener present themselves economically as salaried labor by capitalists in the entertainment or landscaping sector, allowing them to appropriate profit through the sale of goods pregnant with the surplus value objectified in their services, which are the result of this workforce in activity with the means of production, there is no doubt that they are productive workers. Similarly, if these same services are marketed through an app and become part of an alleged Sharing Economy, it makes no difference from a capital point of view<sup>4</sup>.

In this way, if, in the immediate appearance, the relationship manifests itself as being a contracting of the services of the intermediary digital platform by the workers, the analysis of the concrete reality demonstrates that if this platform belongs to a capitalist who accumulates capital with the sale of goods pregnant with the surplus value produced and created by the salaried workforce<sup>5</sup>, this platform company sells the services resulting from the use of the uberized worker's workforce; therefore, his profit comes from unpaid labor time.

Furthermore, if this remuneration assumes the appearance of the consumer paying straight to the uberized worker, who later pays the platform, little changes the question since the fact that underlies this immediate appearance is the existence of a group of workers who produce surplus value and use value, which, due to the centrality of ownership of the means of production, are appropriated by the capitalist in the process of valuing the capital. It should be noted, however, that

on several large-scale platforms (Uber, UberEats, 99, iFood, Rappi, VintePila), the worker's remuneration occurs, as in other sectors of the economy, after the service is performed. We see in Table 1 some examples of companies that offer services, intermediated by their platform, usually as a commodity for individual consumption, that is, a product suitable for final consumption and which, with the exchange for the commodity money, realizes its value:

Table 1

**Examples of intermediated services as an expression of merchandise**

Platform Company	Goods produced	Country of origin	Percentage withheld from the worker's remuneration
Uber	Urban transport of people	United States	Variable
Lyft	Urban transport of people	United States	20%
UberEats	Food transport	United States	Variable
iFood	Food transport	Brazil	Variable
Rappi	Objects and food transport	Colombia	Variable
Amazon Flex*	Parcel transport	United States	Variable
TaskRabbit	Miscellaneous household services	United States	15%
Faxina da Hora	Cleaning household services	Brazil	Not disclosed
Singu	Beauty services	Brazil	Up to 40%
Freelancer.com*	Miscellaneous digital services	Australia	Between 10 - 20%
Goleiro de Aluguel	Amateur goalkeeper service	Brazil	40%
Colmeia	Private lessons	Brazil	Not disclosed

Source: Data elaborated by authors from the companies' websites in April/2022.

\* Note: Platforms whose products are also manifested with preponderance in Form 2.

Uber's product, for example, is the urban transport of people – or commuting. This merchandise produced and sold by the company uses the drivers' instruments and workforce activated through the platform's intermediation. Therefore, the digital platform and the driver's workforce (which incorporates most of the necessary work tools into the production process) are the production factors used to materialize this service commodity (Franco & Ferraz, 2019).

In the case of uberized workers on Form 1 platforms, the essential use value of their labor power that interests the capitalist is to serve the valorization of his capital, or it is the specific characteristic of the commodity labor power that, when consumed, produces more value than it has, the surplus value that will be appropriated by the owner(s) of the platform.

Curiously, it is a service of great age (transportation of people), exposed as if it were a technological product (Uber presents itself as a technology company). Supposedly, its role would only be to mediate the relationship between partners (drivers) and users (clients), while what we have witnessed is that the "great" social contribution of the referred company is to extract more value freely almost all over the world. All listed companies self-declare that they do not sell merchandise resulting from the objectification of the uberized workforce but only the intermediation service, which is not unreasonable<sup>7</sup>, since, in this way, they hide the exploitation inherent to their activity behind the mask of innovation, utility, and "fair" price. This last argument, the fair price, does not differ from the defense of Classical Administration, as in Taylor and Ford, for

example, who use moral justifications for exploitation, when they offer the overall public the bargain of buying cheaper so that they can profit even more through increasing productivity based on the increase in the rate of surplus value.

Drivers from Buser, cyclists from Rappi, beauty professionals from Singu, graphic designers from VintePila, and cleaners from Faxina da Hora, among many others, do not sell their products to consumers. Instead, they sell to the capitalist (represented by the platform company) workforce because it is the only commodity they have. They operate in a work process where the immediate proximity to the consumer is only achieved because they established a relationship with the platform owner, even if, in this case, without proximity and taking advantage of many mediations.

This work capacity is one of the factors included in the production process, including the app and other tools used by end consumers in hiring the services. Thus, the useful effects can be consumed in the production process or materialize in a product to be consumed later. These uberized workers produce, in these cases, goods pregnant with value and surplus value, products of their work already suitable for appropriation in the use-values by the consumer.

From the category apprehension conducted here, we can say that much more than technological interweaving, what the platforms specified as Form 1 do is to produce and sell goods – which they boldly claim to only intermediate.

### *Form 2: The intermediated product/service as part of the labor processes of an industrial capital*

As pointed out by Marx (2014) in book II of Capital, the total production of society is broken down into two major sectors:

- Sector I. Means of production: goods that, given their form, have to enter into productive consumption, or at least can do so;
- Sector II. Means of consumption: goods that, given their form, belong to individual consumption by the capitalist and working classes.

Concerning Form 1, which we have just discussed, produces mostly means of consumption, Sector II of the economy. Now, we will investigate the phenomenon of intermediation referring to Sector I.

In the production process of individual capital, new forms of the technical labor division are established and, because of the capitalist pressure to expand reproduction, end up engendering new forms of the social labor division. It is common, in this process, that a series of stages necessary for goods production be performed by different individual capital, which is present in various capitalist personifications.

Thus, the work form is objectified under the command of these companies, called outsourcing companies, which transmutes the proper service/productive activity into a commodity inserted in a stage of the production or circulation process of the capital that purchases this service. Furthermore, given the legal mediations that emerge from the metamorphoses of social reproduction, it is possible to divide that capital into independent legal registers, turning them virtually into two or more individual entries – even if they are effectively subordinated to the same



group of capitalists. Therefore, contracting and outsourcing companies can be part of the same capital as a production chain.

Imagine the following situation: company A (tire maker) can be subordinated to the same group of capitalists from which company B (car assembler) belongs. In this situation, company A produces tires only to supply this raw material (means of production) to company B. Both are only formally constituted as individual capital. Nonetheless, within bourgeois laws, this separation exerts fundamental differences on accounting calculations and tax collection – in allocating part of the surplus value produced to the State's public fund. Therefore, we are now abstracting from company A's possibilities of selling tires to company B and to other capitalists not belonging to the same business group and final consumers (individuals) as means of consumption.

According to Marx (2014), the “division of labor, the autonomization of a function, does not convert it into a creator of a product and value, if it is not in itself, that is, already before its autonomization” (p. 238, emphasis added). The point we highlight here is that the existence of two National Registers of Legal Entities (CNPJ) does not mean that two companies are not involved in the same process of production and creation of values – even if they are independent capital in terms of legality and accountability. In this case, the productive activity of both, acting in combination, produce the merchandise and its particular capital in expanded capital reproduction, composing the total social capital.

Let us take another situation as an illustration: processes A, B and C are steps necessary to produce commodity X. Depending on how these processes are economically structured, steps A, B and C can manifest themselves as specific goods, resulting from the production processes of respective individual capitalists A, B and C, commodities that are acquired by capitalist D, who take them as necessary factors for the production of his commodity X. Global social wealth is not increased simply by the fact that D transfers certain stages of its production process to other capital – although we know that, in many cases, based on specific interventions, this autonomization reduces circulation costs. Therefore, what appears as commodity capital (M') of capitalists A, B and C of Sector I are constitutive parts (means of production) of the production process (P) of commodity X of the capitalist in Sector II. Thus, only with the need to create commodity X capitalists A, B and C can reproduce the movement of appropriating the surplus value of the complete industrial capital reproduction cycle.

We seek to emphasize that we must follow the practical process of valuing value and not just the legal, spatial, or even accounting arrangements that it represents so that, now, we can move forward to investigate the services that digital labor intermediation platforms promote as a stage of the production process of industrial capital. At this point in the analysis, it is of little interest to us whether the industrial capital acts predominantly as productive or commercial capital (operating in the circulation of goods or money) but that digital platforms have engendered specific forms of objectifying human work, which integrate other parts of the work processes of a determined industrial capital.

It is noteworthy that Form 2 of work intermediation was the first of the three that emerged in the capitalism of these times, even before the creation of companies like Uber. The giant Amazon, in 2005, with the Amazon Mechanical Turk (AMT) segment, was one of the pioneering organizations with the launch of online micro tasks so that globally dispersed workers could help in the automation

processes of activities that still need to be done by human intervention (such as identification of product duplicates in the system, translation of texts, identification of proper names in contracts, objects in a photograph, and goes on). Like AMT, other platforms exist, such as Clickworker, CrowdFlower, Microworkers, and Prolific. Jobs intermediated by crowdwork platforms predominantly occur through interaction with digital devices. However, there are also those in which, after online recruitment, workers perform part of the service remotely and then return to the computer/smartphone to protocol what was requested.

The term *crowdwork* derives from the seminal work of Howe (2006), considered responsible for popularizing the term crowdsourcing – uniting ‘crowd’ and ‘outsourcing,’ encompassing any activities that economic agents can transfer to an anonymous crowd connected to the Internet (Rouse, 2010). On the other hand, the term *crowdsourcing* is broader than *crowdwork*, encompassing in many studies – as the systematic review by Guimarães (2018) demonstrates – the appropriation of various works and inputs generated by the online crowd. In this way, even consumers or users of the platforms would be considered an integral part of crowdsourcing since they provide data that can be appropriated as a source of income and carry out work (usually voluntary and free) of posting photos, videos, texts, encyclopedia entries, product, and user evaluations – in these cases, they are also treated as part of the phenomenon of “collaborative consumption” or *prosumption*, already deciphered by Ferraz, Franco and Maciel (2021). The term *crowdwork* tends to be more specific (although there is no complete consensus), encompassing the necessarily paid jobs performed on demand, mediated by digital platforms that connect potential service providers (the dispersed global crowd of workforce online) and requesters (individuals, groups, or organizations) (De Stefano, 2016; Idowu & Elbanna, 2021). We restrict ourselves here to this concept of *crowdwork*.

Souza (2017) describes crowdwork into four types:

1. Microtasks – high volume of low-complexity tasks, low pay, and virtually no contact between the service requester and the worker (e.g., researching product prices)
2. Macro tasks – high volume of tasks of medium complexity, low pay, and little contact between the applicant and the worker (e.g., writing a review of the qualities of a product)
3. Simple projects – low volume of tasks, “moderate” remuneration, and relevant need for contact between the applicant and the worker (e.g., contacting event participants, translating a text, creating a website)
4. Complex projects – single project, high compensation, requiring substantial applicant-worker contact (e.g., software development or human resources consulting)

Note that among the various works listed as executable by crowdwork, some may be industrially organized in a way that they are not necessarily integrated into the work processes of industrial capital and can therefore manifest themselves on Form 1 platforms (which produce means of consumption) or Form 3 (as will be seen forward). The intermediary work of creating a website and translating a text, for example, can be performed by the uberized worker based on a process that may or may not be integrated into a cycle of capital accumulation – because, we must remember, it is not the content of work that determines how it will be inserted into the capital reproduction process. Notably, most of the work carried out by the so-called crowdwork<sup>8</sup> has been

intermediated by platforms that predominantly assume Form 2 – which is why these types of work are specifically addressed here.

The widespread use of crowdwork seems based on the need for an amorphous crowd of workers to perform activities mediated by digital platforms. On the one hand, if so, the term becomes too broad and not very explanatory, lacking the *differentia specifica* (Alves, 2011). In this sense, the concept of “crowd” has not been able to capture the predominant material moment delineating and specifying the variety of capitalist reproduction expressions. After all, if we are talking about jobs such as “application testing,” “price research,” and “website creation,” and most of those categorized by Souza (2017) as simple and complex projects, the work itself is not commonly performed by a multitude (generic relativization for a large contingent) of workers, or, moreover, there is no abstract work without concrete work. Besides, the crowd exists because real men and women of flesh, blood, and dreams work alone inside their homes.

Then, we need to ask ourselves: what kind of crowd would it be that, during its activity, has only one individual to meet productivity goals? On the one hand, from the perspective of the capitalist, he sees a crowd by taking advantage of the strength of the cooperation of countless isolated workers, even if they are digitally interconnected; on the other hand, from the working-class point of view, they have never been so lonely. This huge contingent of workers subjected to uberization (hiring their workforce through an app) does not act together in space, does not know each other, and, in the immediacy of the work process, presents itself more as a monad of unitary exploitation than a collective one. However, this exploitation is only effective in a complex chain of cooperation of work expropriation. Thence, new forms of struggle emerge and are set in motion, and we are witnessing the emergence of uberized workers' unions, such as the recent Amazon workers' union.

Nonetheless, the detailed division of tasks has been introduced previously. It is sufficient to point out that at the beginning of the 20th century, Taylorism was not uncommon for factories in the USA, with more than twenty thousand workers performing highly repetitive microtasks, or that, in the last quarter of the last century, the footwear sector hired thousands of women and children to sew shoes by hand from their homes and receive by the piece, these workers were never denominated crowdwork, but, undoubtedly, were part of the working class.

From another perspective, if crowdwork means the potential workers or users of intermediation platforms able to receive job proposals and who migrate from one “job” to another, the concept seems to make more sense in the case of the fluent population of the industrial reserve army. Not just because it represents many people but precisely because of the anonymization, the current historical and unique situation of the salaried workforce: physically individualized, spatially dispersed, and digitally collectivized.

Our caution with the term is that this phenomenon does not express a change in class relations or the specific suppression of the working class by the institution of the crowd, although the term makes it seem that there is. On the contrary, the phenomenon only expresses capital expansion as the productive forces advance and overcome borders and territorialities in the search for valorization, and rather than a foreman shouting the existence of a job vacancy to a small crowd of workers who gather at the gate factory, there is an algorithm flashing on the computer screen ‘the need for a translator’ who, now, besides having his workforce exploited, also needs to dispose

of the means of production (their work tools) to the capitalist. In other words, it is the application that, beyond spatially dispersing the working class, still demands the ability to reduce the capitalist's need for constant advanced capital to operate the valorization process (Franco & Ferraz, 2019).

Platform companies organize their economic practices in Form 2 by directing industrial demands to workers who present themselves through their virtual environment as capable of performing the service necessary to produce and circulate specific goods or services. These work processes are part of the work activities of the industrial capital (productive and/or commercial) into which intermediated work is integrated. The "platform" resource may be owned by industrial capital itself, which enjoys the use value of this workforce in the intermediate stages of its production process, such as the AMT platform, created by Amazon, and the Hermes platform (for subtitle producers), created by Netflix, or by a private capitalist who acts as a third-party company for other companies.

In Form 2, as in Form 1 and differently from Form 3, the more workers are hired and work on these microtasks through the platform, the greater the tendency of the productive sphere capitalist to appropriate a larger mass of surplus value. If the uberized activity makes up part of the production process necessary to produce the merchandise, as in the case of Hermes, the appropriation of surplus value takes place with the increase in the mass of waged labor force subjected to exploitation (supposing the growth or maintenance of the exploitation rate). In case the capitalist operates in the commercial sector, or the demanded work is devoted to the formal metamorphoses of value (accounting, for example), this is unproductive work for capital and, therefore, the increase in the unpaid part of the working day is the only way to increase the appropriation, by the capitalist, of the total surplus value that circulates, so that the sore point is the increase in work intensification. Uberized workers will produce surplus value if the work process developed is within the sphere of production, crystallizing their work in merchandise put up for exchange, and will not generate surplus value if they act in the sphere of circulation, helping the process of trading goods or money.

It is worth mentioning that, although in Form 2, we have given greater focus to work performed in the virtual environment, several intermediary platforms sell intermediated services to other companies, whose activity performed by the uberized worker predominantly takes place outside the virtual environment. The CargoX platform, for example, sells freight services to companies and retains up to 15% of the value of the service (Viri, 2018). Likewise, Posher (2022) sells beauty services to companies and retains 28% of the total value of the service. Finally, Findup sells computer services to companies and withholds a not disclosed amount from worker compensation.

The main difference between Form 1 and Form 2 is that, while in the former, the economic cycle of value ends with the consumption of the service (individual consumption); in the latter, it is integrated with the work necessary for the production or circulation of other capital. Thus, in this form of labor objectification of the uberized worker, the useful effect resulting from work is not immediately constituted as a commodity but as an activity necessary for the general production process. Nonetheless, it can act as a commodity for individual capital that sells intermediated services to other capitalists when they act as "outsourced" providers of labor power.

### *Form 3: The intermediation service as a moderator in exchange relationships*

We start from a provisional characterization of Forma 3 as an intermediation service that effectively acts as a moderator since it connects provider and user-client through subscriptions and monthly plans, like the streaming companies swarming nowadays. Their commodity would be to facilitate exchanges.

In the private urban transport segment, Uber's main competitor in the United States is Lyft. As background, we have the story of Zimride, a ride-sharing system created in 2007 by Logan Green and John Zimmer at Cornell University in the United States. The platform connected the user's profile to their Facebook account, a social network that had already opened the Application Programming Interface (API) to third parties, allowing consumers a certain level of reliability. Initially, Zimride was conceived to connect only people who studied at the same university or worked in the same place with trips usually to these destinations or over long distances (Slee, 2017). Thus, user drivers who already had their travel destination defined could share the route costs with the user hikers. The company did not charge users since its profit would come from selling subscriptions to ride-hailing networks at universities or companies, which benefited from easing parking restrictions or contracts with bus companies. In this sense, the own access to the digital platform was presented as a commodity whose exchange value did not depend on the number of rides promoted through the platform.

With the great success of Zimride at Cornell, the company received contributions from venture capital funds, migrated to San Francisco Bay, and expanded to other universities, as Slee (2017) informs us. Besides, Zimride created Lyft in 2012 to go beyond contracts with universities and companies, focusing on short-distance journeys in cities. Quickly, Lyft "made it possible for drivers to receive a certain amount of money for each ride so that they would be encouraged to make trips that they normally would not" (Slee, 2017, p. 95). In 2013, the company replaced the system of voluntary donations from hitchhikers with a fee system. The more the company capitalized – US\$ 60 million in risk investments in 2013, US\$ 250 million in 2014 (Slee, 2017) – the more the publicized community and collaborative purpose were replaced by the hegemonic logic of the market, leaving few differences between Lyft and Uber.

Currently, Lyft withholds 20% of each transportation service provided by employees linked to it, so it has transmuted its intermediary service merchandise (Form 3) to intermediary service merchandise as a means of consumption (Form 1). And the utopian ideology of saving the world by sharing individual action shows its limits.

Regarding iFood, the intermediary platform for food delivery work, the company has products expressed in Forms 1 and 3. When we consider that the more food deliveries made under its intermediation, the more the company appropriates a value produced by the deliverers, we have that the platform sells the goods for transporting food (Form 1). However, iFood also sells a monthly subscription plan so that food companies can be viewed by potential consumers who can order food through the platform. In this sense, the monthly subscription to access the platform is sold as a product and assumes the merchandise aspect in an array to potential consumers.

We should notice that even if the platform assumes the merchandise aspect and acts in exchange processes as if it were a commodity, the result of labor expense (maintenance of the

digital platform in an array to potential consumers) does not necessarily constitute a commodity, as presented by Marx (2014):

The state change [from commodity form to money form and vice-versa] costs time and labor power, not to create value, but only to transfer value from one format to another, with no change in this mutual attempt to appropriate an additional amount of money. This labor, augmented by the evil intentions of both parties, creates as little value as labor expended in a lawsuit increases the value of the object in dispute. This work, which is a needed moment for the capitalist production process in its wholeness - a process that includes circulation or is included in it - is like the work of combustion of a material used to produce heat. This combustion work does not produce heat, although it is a necessary part of the combustion process. (p. 234)

To some degree, labor force and time must be expended in the circulation process (regarded as mere format transmutation). Nevertheless, this now appears as an additional capital investment; a part of the variable capital must be invested in the purchase of those labor forces which only act in circulation. This capital advance does not create product or value. On the contrary, it reduces the volume in which the advanced capital works productively. (p. 237)

In our abstraction, Form 3 assumes the appearance of a commodity. Nonetheless, in the movement of expanded capital reproduction, as we will see, Form 3 is part of the investing strategies of some work intermediation platforms, extracting income from the costs of circulation of other capital and/or reproduction value of the workforce and/or the value of goods sold by self-employed workers.

According to the iFood website (Ifood for partners, 2022), the company practices the following values for registered restaurants: (a) basic plan, in which the restaurant itself is responsible for the delivery, with the value of R\$ 100.00 monthly, plus a fee of 12% on the value of orders and an additional fee if the customer pays via the digital platform; and (b) delivery plan, in which delivery is the responsibility of iFood itself, with a monthly fee of BRL 130.00, in addition to a fee of 23% on the value of the order. The subscription with a fixed price, paid by the company to the platform, represents the Form 3 modality. As for the remuneration of deliverers, the application does not disclose any parameter on how the payment calculations are made. An article on the Techtudo portal (Dias, 2019) only points out the difficulty of “estimating the earnings of an iFood delivery employee since their entries depend on several factors. Among them are: the number of restaurant orders in one’s area, the time one [the delivery employee] spend available to accept orders on the platform, and the route of deliveries”. Finishing up with the most apparent motivational message for delivery workers: “The more runs you make, the more credits you accumulate.”

The company Polifrete is yet another example of a platform that materializes its economic activity in Form 3. It mediates the hiring of transport companies or self-employed drivers by industries producing or distributing goods. Through the application, it registers “free of charge” self-employed truck drivers and cargo transport companies. Polifrete neither determines the price of

the cargo transport service nor charges workers a fee for the value of the service. However, in its business model, companies wishing to access registered freight forwarders pay a monthly fee to the platform company. Whether the worker performs five or fifty shipments in a month matter little for the direct determination of the platform company's profit; likewise, if the company that needs cargo transport requests five or fifty services, this also does not directly impact the intermediary's profits. Therefore, the more registered workers the platform company has (whether self-employed or hired by transport companies), the greater its chances of getting new monthly fees from companies that need this type of service.

Operating in the same field, the company Truckpad charges monthly fees for companies to access the register of freight forwarders gathered by the platform – including access to the trucker control instruments that the platform makes available. It is a new form of outsourcing that lets off traditional contracts and current legislation that the State has not legally adapted yet, which involves submission to bourgeois laws.

Doctoralia says it is the world's largest digital platform connecting healthcare professionals with patient-consumer users. The Doctoralia website (2022) highlights that the platform company offers the following functionalities: allows users to post information and reviews about professionals categorized by location and specialization; provides search tools for researching professionals and institutions; notifies the users of new information and opinions; allows them to contact verified professionals; allows verified professionals to provide and correct information about themselves, answering users' questions and comments directed at them; allows scheduling appointments through the consultation calendar for institutions that have made this option available; allows visibility through online search engines. So far, the company publicizes on its digital platform medical professional registrations (of the most diverse specialties), physiotherapists, dentists, occupational therapists, psychologists, psychoanalysts, educational psychologists, nurses, nutritionists, and specialists in health administration. According to the news portal - Gazeta do Povo (Pozzobon, 2018) - regarding the subscription plans provided by Doctoralia's digital platform:

The Premium profile, which has digital support and enables online scheduling and better search positions, costs the health professional BRL 339 per month or BRL 3,390 per year. In addition, if he wants a web page with his domain, R\$ 49 is added to the monthly fee. There is also the First Class package, with requested prices, for the profile to remain on the top positions on the Doctoralia page. Finally, free profiles are offered, which are more basic, with no company support.

As with Doctoralia, there are other digital platforms for the intermediation of health services where the health professional pays a fixed monthly fee to the application, such as Nossos Doutores. In addition, others charge the final consumer (individuals) a fixed amount to access the platform, such as Doutor 123, Consulta do Bem, Dandelin, and Doutor Já. Note that the subscription plan represents the product in Form 3, although products in other forms may be added to this one.

Therefore, in the specific cases of Form 3, the subscription for access to the work intermediation platform can be paid by a capitalist industry, by an uberized worker (whether this is the one who sells the useful effect resulting from work as a commodity, whether this is who sells

his labor power as a commodity) or by a final consumer (who performs individual consumption). In summary, when the product engendered by the work intermediation platform is expressed by Form 3, the intermediated service assumes the expression of a commodity form since it operates in exchange processes, which is exchanged for the commodity money. However, depending on how Form 3 is inserted in the economic dynamics of value, its actual constitution takes place as part of the circulation costs of an industry or as a deduction from the value produced by the worker (without the creation of additional value).

We also rescued the GetNinjas platform (2022), which, self-titled ‘the largest service contracting platform in Brazil,’ has been offering more than four million intermediated services in 2020 – branches of technical assistance, classes, consulting, home renovations, fashion, health, cleanliness, and the list goes on. The company does not determine the price to be charged by the worker in providing the service, does not charge the worker a monthly fee, does not require minimum productivity, does not establish a fixed percentage retained by the platform on the value paid by the consumer, nor does it disconnect providers with low ratings. However, if uberized workers want to access a potential customer, they must pay the “coins” they buy from the platform company in advance.

We also highlight that professionals only pay to contact the customer requesting services, which does not guarantee that they will be chosen to provide the service – payment is made only on the assumption of selling the service to the consumer. These currencies, however, become the dominant element of accumulation of the intermediary company, which profits from the retention of part of the reproduction value of the uberized worker's workforce (if what he sells is the workforce to a capitalist through the platform) or a production cost necessary for the objectification of his autonomous work (if what he sells is a utility effect of his work as a means of consumption, which takes the form of merchandise). Workers pay a “monthly fee” to access the platform and be seen by potential buyers of their workforce, whether these buyers are capitalists or not – the change here is that in one case, it will be a subsumed worker straight to the process of value production or realization and, in another, it will be paid by the income of an individual who does not insert him in the process of value valorization. However, in the case of GetNinjas, this monthly fee does not assume a previously fixed value, following the “currency” metric predetermined by the company.

As it is possible to notice, even if what characterizes Form 3 is the fact that there is a monthly access subscription plan, there is a diversification depending on who the agent with which the exchange is made is and how the amount paid for this subscription is inserted in the dynamics of capitalist reproduction. On these platforms, its economic performance mixes the role of an “employment agency” with that of professional classifieds.

Access to the platform becomes a product that allows capitalists to buy labor power or that workers can expose themselves to potential buyers of their merchandise (labor power or services as a means of consumption). Form 3 generally displays more workers whose occupation requires more formal qualifications and whose social recognition is higher, such as doctors, lawyers, architects, psychologists, and others. Although it presents a configuration that allows greater autonomy to the worker, the trend is that these platforms specialize and assume Form 1 or 2, subordinating the worker more directly to the labor processes determined and controlled by the platform company.



It is possible in the three forms that most of the value the platform company appropriates does not necessarily come from its specific product of work intermediation. Even so, there is a need for a significant number of user-workers and users-consumers to interact so that the collected data become relevant to their strategies. That is, the greater the amount of platform intermediation, the more it expands the sales potential of new products and imposes entry barriers to new competitors. Indeed, authors such as Cusumano, Gawer and Yoffie (2019) point out that searching for network effects is a frequent strategy of platform companies, including work intermediation companies. Thus, as platform companies become more capable of attracting users and implementing complementary innovations, even if they face accounting losses for doing so, the “winner-takes-all” strategy justifies such investments for the monopolization of the market and demonstrates the overlap between platform economies and financialization, since it is the financial capitalization strategies that allow dealing with long-term losses. The authors point out, however, that network effects do not always lead to the expected results (not allowing long-term profitability), which does not reduce the social damage that this dispute can cause, such as lowering wages and reducing social benefits to workers. Therefore, the wealth appropriated by the capitalists who own the platform companies comes from the diversified exploitation of the working class, dominating the social nexus of production, finance, and consumption.

### **For a research agenda on the mediations and complexities of the world of platform work**

Starting from the three forms of product manifestation in labor relations mediated by platforms, we systematize this labor morphology according to Table 2.

Table 2

**Synthesis of the three intermediation forms by paid work platforms**

<b>FORM</b>	<b>1: As a commodity of individual means of consumption</b>	<b>2: As part of industrial work processes</b>	<b>3: As a moderator in exchange relationships</b>
<i>SECTOR AND MERCHANDISE</i>	Sector II of the Economy. Goods are intended for final consumption (unproductive consumption).	Sector I of the Economy. The work product is inserted in sector I or II of the economy of industrial capital and consumed in the production and/or circulation of goods.	The intermediation service itself assumes the expression of a commodity form. Monthly subscription packages for platform access are sold as a product.
<i>WORKFORCE</i>	The essential use value of labor power that interests the capitalist is to serve his capital valorization.	The labor force is part of a given moment in the whole labor process of the industrial capital. It can be productive work or a cost of production.	Forma 3 becomes an intermediary in the sale of the workforce. It acts as an "employment agency," linking workers and outsourcing companies or as classified ads to the array of self-employed professionals.
<i>PRODUCTION OF PLUS VALUE</i>	It produces surplus value. There is a sale of goods that incorporates the value produced and created by the waged labor force.	It can produce surplus value (if labor is part of the commodity production process) or not (if labor is part of the cost of commodity circulation).	It does not produce surplus value. Depending on how it is inserted in the economic dynamics of value, the appropriation of surplus value by the capitalist comes from the circulation costs of another capitalist, the reproduction value of the workforce, and/or the value of the goods sold by autonomous workers. There is a trend to migrate to Forms 1 and 2.
<i>RELATED TERMS</i>	Uberization; just-in-time worker; plataformization.	<i>Crowdwork</i> ; Industry 4.0; just-in-time worker; plataformization.	<i>Peer-to-peer economy</i> ; plataformization.
<i>PLATFORM COMPANY</i>	Uber; Lyft; Buser; iFood; Faxina da Hora; Colmeia; Rappi.	Amazon Mechanical Turk; Clickworker; CrowndFlower; Microworkers; CargoX.	Polifrete; Doctoralia; Doutor Já; GetNinjas.

Source: Prepared by the authors.

The need to understand these specific forms is not limited to classifying the applications in Forms 1, 2 and 3 but to the urgency of bringing to light the logic of the exploitation process of the working class, avoiding the reproduction of knowledge that presents the technological advancement as a way out of a society without bosses, as we have sought to demonstrate throughout this research. To produce a new society, we need to overcome technology as privately owned production method. However, the study of these forms shows the continuous advance of the productive forces as a motive for capital expansion through increased labor exploitation, especially in countries of delayed capitalism.

Therefore, the analytical effort that we have presented so far has aimed at apprehending, at a high level of abstraction, the exploitation of workers according to the specific forms of value appropriation engendered using platforms (apps) as means of intermediation of the product of work

and, therefore, that is, the use (and exploitation) of labor power. From the material point of view, the platform presents itself as a new way of intermediating work – from the point of view of value, it is the same subsumption of labor to capital. This subsumption expresses the intermediation role of the capitalist class between the moment of production of use values and the moment of consumption, a position made possible by the private ownership of the means of production.

When thought returns to concrete reality, it finds these specific forms often gathered within the same app and under the command of the same group of capitalists. There are freight service platforms, for example, that use the intermediation activity of professional transporters to obtain data on cargo logistics in Brazil to offer, thus, other products. For example, the TruckPad company (Riato, 2018) obtains revenues by selling advertising space on its platform (renting). It takes advantage of the data collected, offering analytical big data reports and logistics consultancy to other companies. Cleaning service platforms may charge fees if the consumer pays through their infrastructure, in addition to providing insurance for cases of domestic accidents during the service.

In the Brazilian Institute of Consumer Protection study, Zanatta, Simão, and Navarrete (2018) carried out an evaluative survey on the protection of consumer-user rights on the principal digital platforms for health service intermediations in Brazil. The authors demonstrate that the business models for medical consultations apps are not limited to the intermediation of the relationship between doctor and patient, as they allow the sharing of medical data to third parties, the sale of targeted advertisements based on the patient's private data and the collection of monthly fees to access to medication purchase cards. Therefore, the profit of some platform companies comes, as a whole, from the diversification of exploiting the working class in its entirety, whether they are productive or unproductive workers.

Graham, Hjorth and Lehdonvirta (2017) demonstrate that most of the so-called crowdworkers are in so-to-speak low-income countries, while most corporate clients who hire them are in the vanguard countries of capitalism. Indian workers at Amazon Mechanical Turk in 2017 were paid about a third of the amount received by American workers (Berg, Furrer, Harmon, Rani, & Silberman, 2018). Uber reports highlight that Brazil is the second country with the highest number of drivers linked to the company globally. Therefore, if uberization tends to advance faster in countries whose labor markets are historically structured based on precarious relations and where formal work is scarce, it is towards monopoly capitalists who operate the nerve center of the financial sector from the developed countries that the value (and surplus value) produced is mainly directed.

In this path, at the same time that digital platforms, as a result of scientific-technological revolutions, present themselves as an agent of utopias, generalizing the capacity for sharing, income generation and/or labor flexibility, they act on the margins of workers' historical achievements, transferring value to the world capitalist class, both by sucking the value produced by uberized workers (when they are productive to the platform) and by appropriating surplus value through the mediation of other industrial capital (when platforms earn income from the sale of advertising, insurance, lease of access to virtual space). Consequently, a relevant part of the value effectively created and realized is transferred to the capitalists who own the platforms, driving the concentration and centralization of capital; naturally, this only occurs with the mediation of financial oligarchies. In short, the phenomenon of work uberization, allowed by the technological advancement represented in Industry 4.0, which leverages capital contributions from the

centralization operated by the financial sector, is just another expression of this particular stage of capitalism, imperialism (Lenin, 2012; Fontes, 2012), with the systematic transition of values from peripheral countries towards the capitalist countries.

Given the above, we list possibilities for the necessary research agenda that can follow from the apprehension of the three forms of work intermediation:

- Research involving the different forms of control and resistance of workers: as highlighted by Tucker (2020), workers who perform the service in person have a greater tendency to recognize themselves as a category, with claims that are directed against the platform – and not against customers who enjoy the useful effect of their service. Such a position has occurred mainly with those who carry out work intermediated in Form 1, in which the creation of unions of urban transport workers and deliverers via apps has already happened. Regarding workers who perform the service digitally, which we have highlighted as more frequent in Form 2, Tucker (2020) points out that the resistance is less intense, even though he mentions the creation of online groups, such as Turkopticon, in which AMT workers make evaluations and criticisms that constitute the reputation of the agents that demand their services. We emphasize the need for further investigations into different forms of resistance, such as platform cooperatives (Scholz, 2016), including the workers' strategies in Form 3. Concerning workers whose platform control is less intense, the possibilities of resistance can be made by workers assuming more conducive management of the platform, suppressing the intermediation action controlled by the company;
- Research that deepens the relationship between uberization and financialization, considering the Imperialist context and the international division of labor: based on the three forms we present in our study, research can advance by identifying in official reports who are the leading platform funders, where the workers are mainly situated and how this information allows better characterization of particular contexts of Forms 1, 2 and 3. Montalban et al. (2019) highlight that several platform founders aim not to create value and profits but to increase their market capitalization (financial speculation) to sell their shares to larger companies, which will exploit the data and their network to create value. However, in which platform models have these objectives been shown to be more frequent? According to Davis and Sinha (2021), the current theory of organizations has a fruitful field of investigation, with comparative studies focused on the relationship between organizations and information and communication technologies. They argue that domestic institutions (such as the structures of capital markets and educational systems) and ICTs (such as data sheets and smartphones) determine how the exchange agents perform and the exchange condition and behavior (including labor power and transactions in the financial market). In this sense, the analysis of specific national contexts will allow us to apprehend how the three forms manifest themselves in each country, shaping organizations and organizing the geopolitical scenario;

- Research that demonstrates, in specific sectors of activity, how labor intermediation platform companies have appropriated socially produced value: in the investigation by Kenney, Bearson and Zysman (2020), researchers show that 70% of service industries in the United States are potentially affected by digital commerce platforms. Thus, the authors point out that: 34% of these industries are directly affected (the transaction between buyer and seller occurs through the proper platform, which straightly captures value through the transaction), 36% are indirectly affected (platforms connect buyers and sellers, but the transaction does not take place on the platform, so value capture is indirectly through passive data collection) and 30% are unaffected (transactions remain unaffected by platforms). So far, we have not identify similar surveys with labor intermediation platforms in other countries. Thus, considering the three forms, it would be possible to identify the sectors most affected by the platformization dynamics, how much of the value appropriated by the platform companies comes from the exploitation of uberized workers, and how much comes from aggregated products, such as advertising and other products made possible by the platform data collection and analysis.

Our recommendations demonstrate the need to investigate labor relations throughout the whole capital reproduction cycle since broadening the perspective to follow the value metamorphoses along the productive chain will allow us to perceive how the productive forces have been sophisticated to expand the capacity to extract and attract surplus value – which, of course, is the result of the worker exploitation. Such efforts may even collaborate with the demystification of the technological revolution 4.0 by overcoming the discourse of the utopian solution of the sharing economy, giving corporality to the crowd, and revealing it as a class.

## Final considerations

The three forms help us to understand how the commodity production process subjects men and women to precarious working conditions and increased exploitation: whether in Form 1, more immediately; either in Form 2, in a more mediated way; and virtually invisible in Form 3, when the end-product is the labor market and the platform company manages to wrest a quantum of social value from another capitalist or directly from workers.

We also noticed that the goods these platform companies sell are way less technological than advertised. Activities tend to be trivial and increasingly repetitive, although it is natural that (or precisely because of it) the products from the celebrated Industry 4.0 are named "smart" or "intelligent." What happens is that the highly-qualified human labor force from the capital point of view (in general sold by workers from capitalist countries due to the international division of labor) is seized and crystallized in means of production (machines, robots, algorithms, management, and others), that is, in constant capital, so that variable capital (live labor force, less qualified workers from all over the planet) performs increasingly less complex tasks. Taylor would be proud of the new technical possibilities of controlling time and movement in a work process that crosses oceans and continents.

From the point of view of human life on Earth, the question is: is this technological progress? To us, it looks more like old and decayed capitalism trying to stay alive, even if it needs to innovate,

along the way, from time to time (Ferraz, 2021). After all, the preponderance of monopoly over free competition tends to curb technological advances (Lenin, 2012), making it imperative that it be merely technical progress to recover average profit rates. Thus, the advocates of such platform capitalism, although they seek to present the distinctive aspects of the current stage of the expanded reproduction of capital, forget to mention that it is nothing more than the expression of imperialism with a digital technical base and that, from the point of view of humanity, the mode of production continues to deteriorate the conditions of existence, which is not restricted to the platforms, crowdworkers, or uberized workers but reaches the whole working class in its dialectical relationship with the capitalist class.

Platformized jobs should not be considered just as a new form of work relationship but a trend that, due to the competition and dominance of the social nexus by platforms, pushes society to assume the maximum work exploitation in a generalized way and social relations whose centrality is given by virtual interactions. Thus, we also understand the need to consider that there is an uberization of work and life organization. The activity diversifications expressed as the platform business models represent the capital expansion that can only be sustained with the massification of social relations being operated through these applications. If exploited workers grow through the platform's interface, it is because our social activities have also been mediated through this interface. Just as the Taylorist organization model of production produced a Taylorist way of consuming and living, the uberized way of organizing work tends to expand and dominate all aspects of our lives. This trend can be seen already in the figure of the prosumer (consumers who work for free for capitalists), naturalized in contemporary capitalism.

The need to submit to platform dominance, in any of the three forms, emanates from the capitalist mode of production, which subsumes work to capital through private ownership of the means of production (now represented by the proper digital platforms), engendering technology revolutions which aggravate the overall impoverishment movement of a great deal of the workers. Technology is not the problem, but technology is not the solution either. It is just an interposition demanded by the work process, which, in turn, is based on a teleology inseparable from class antagonism.

Furthermore, to answer the question made by Paula and Paes (2021) to the community of administrative sciences about whether “[the] industry 4.0 brings more benefits than harm?” (p. 1056), we highlight that from the working-class point of view, there is very little to celebrate regarding the technological progress of companies that are increasingly platformized and excel in exploring people and the environment. There exists the opposite instead: the need to reverse this trend, to use the platforms that separate and individualize as means of union and meeting for the convergence of the fight against capitalist exploitation, that is, to appropriate the digital technologies produced by workers, so that they do not continue to be used against their makers.

Although technological advances express the ingenuity and evolution of human knowledge, it is essential to overcome the distinctive appearance and apprehend the movement of reality to effectively use these advances in favor of life and the liberation of humanity.

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## Notes

1. Faraj and Pachidi (2021) define organizing as the socio-material arrangement of practices, rules, norms, frameworks, and material infrastructures that provide distinct possibilities to arrange and shape decision-making, control, and coordination in organizations.
2. Marx (2013) explains that commodities are “products of private work, separate and mutually independent of each other” (p. 120), or it is not a quality of some product but a social relationship in which two ( or more) products face one another in exchange. In addition, to be a commodity, there is a double simultaneous aspect: they are useful objects – use values (for the stomach or the imagination) – but which also carry, in their commodity-body, value (socially necessary human work) that expresses itself as exchange values. In this sense, and skipping some mediations, work in a capitalist society is turned into a commodity (it has use value and value), even if it is an unusual, unique commodity. The workforce, to reproduce itself, needs to acquire other goods, the means of consumption, which are products/services that do not re-enter the capitalist production process but are essential for working-class men and women to remain alive to sell their workforce.
3. We recommend reading chapter 5 of *Capital*, book 1, in which Marx (2013) presents the specificity of the work process subsumed to the valorization process in capitalist society.
4. From the working-class point of view, this makes a difference because, as several studies demonstrate (Antunes, 2020; Chudinovskikh, 2022; Polkowska, 2019), carrying out work intermediated by an app makes precarious work relations and conditions by imposing loss of rights, and, when it comes to unproductive workers, implies in unemployment increase since the app represents the old replacement of live work by the dead one.
5. Remember that the worker generates value by producing the equivalent of his labor power and also creates value by producing surplus value.
6. Variable capital may be summarized as the capital fraction expended on the acquisition of labor power. It is noteworthy that live work is the only means capable of adding value to the production process.

7. It is interesting to note that, ultimately, the discourse between the person who consumes the final product (consumer) and the worker who produced it can be mediated by any capitalist company. For example, doesn't the dealership Fiat also mediate the relationship between the car producer and the consumer? Intermediation guaranteed by private ownership of the means of production is a natural condition for surplus value appropriation.
8. Main activities of the crowdwork: data collection; data categorization; promotion of content by hits; verification and information validation; content moderation; market research and product reviews; tasks that aid artificial intelligence and machine learning; transcription, creation, and editing of content; and participation in surveys and experiments (Berg et al., 2018).

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The authors inform that there is no conflict of interest.

## Inclusive language

The authors use inclusive language that acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities.

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