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Digital platforms and work organization: inadequacy of digital Taylorism and the insurgency of the new putting-out system

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Abstract

This paper aims to critically analyze the so-called digital Taylorism. Given that the concept was developed to describe the organization of work typical of digital platform mediation, it analyzes its inadequacy in explaining the role of platforms in work organization. Based on the inflexionist approach to the labor process, it demonstrates how work organized by platforms develops on a technical basis supported by the subjective principle, dependent on variable capital, which coincides with Taylorism. However, work organization through digital platforms occurs via a new form of domestic work (putting-out system), a method predating Taylorism as it coordinates dispersed workers who own their means of labor. The inadequacy of Taylorism to explain the labor process in platforms arises because essential Taylorian aspects, such as the improvement of movements, selection of the fittest workers, and their grouping in a single location, do not manifest and are unnecessary. Thus, the method of work organization underlying digital platform mediation has more archaic roots than Taylorism. Nonetheless, it is the most suited for surplus-value extraction, given the constraints of the technical basis of the sectors in which digital platforms operate.

Keywords: digital platforms, digital Taylorism, labour process, putting-out system.

Plataformas digitais e organização do trabalho: inadequação do taylorismo digital e insurgência do novo trabalho domiciliar

Resumo

O presente trabalho tem como objetivo analisar criticamente o chamado taylorismo digital. Considerando que o conceito foi desenvolvido para descrever a organização do trabalho típica da mediação das plataformas digitais, analisa-se a sua inadequação para explicar a função das plataformas na organização do trabalho. A partir da abordagem inflexionista do processo de trabalho, mostrou-se como o trabalho organizado pelas plataformas se desenvolve em uma base técnica apoiada no princípio subjetivo, dependente do capital variável, o que coincide com o taylorismo. Contudo, a organização do trabalho realizada pelas plataformas digitais ocorre por meio de uma nova espécie de trabalho domiciliar, método que já existia anteriormente ao taylorismo, uma vez que coordena trabalhadores dispersos possuidores dos meios de trabalho. A inadequação do taylorismo para explicar o processo de trabalho nas plataformas se dá porque, com elas, aspectos essenciais do taylorismo, como o aprimoramento de movimentos, a seleção dos trabalhadores mais aptos e seu agrupamento em um mesmo local, não se manifestam e são desnecessários. Assim, o método de organização do trabalho sobre o qual se baseia a mediação das plataformas digitais tem raízes mais arcaicas que o taylorismo. Todavia, é o mais adequado para a extração do mais-valor, dadas as restrições da base técnica dos setores em que atuam as plataformas digitais.

Palavras-chave: plataformas digitais, taylorismo digital, processo de trabalho, trabalho domiciliar.

Plataformas digitales y organización del trabajo: insuficiencia del taylorismo digital e insurgencia del nuevo trabajo a domicilio

Resumen

El presente trabajo tiene como objetivo analizar críticamente el llamado taylorismo digital. Considerando que el concepto fue desarrollado para describir la organización del trabajo típica de la mediación de las plataformas digitales, se analiza su inadecuación para explicar la función de las plataformas en la organización del trabajo. A partir del enfoque inflexionista del proceso de trabajo, se demuestra cómo el trabajo organizado por las plataformas se desarrolla sobre una base técnica apoyada en el principio subjetivo, dependiente del capital variable, lo que coincide con el taylorismo. Sin embargo, la organización del trabajo realizada por las plataformas digitales ocurre por medio de una nueva especie de trabajo a domicilio, método que ya existía antes del taylorismo, puesto que coordina a trabajadores dispersos poseedores de los medios de trabajo. La inadecuación del taylorismo para explicar el proceso de trabajo en las plataformas se debe a que, con ellas, aspectos esenciales del taylorismo, como la optimización de los movimientos, la selección de los trabajadores más aptos y su agrupación en un mismo local, no se manifiestan y son innecesarios. Así, el método de organización del trabajo en el que se basa la mediación de las plataformas digitales tiene raíces más arcaicas que el taylorismo. No obstante, es el más adecuado para la extracción de plusvalía, dadas las restricciones de la base técnica de los sectores en los que actúan las plataformas digitales.

Palabras clave: plataformas digitales, taylorismo digital, proceso de trabajo, trabajo a domicilio.

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INTRODUCTION

One of the aspects that has attracted great attention regarding labor relations in contemporary society is the role of digital platforms in the labor process. There are numerous examples of the application of these platforms across different sectors of the economy. Terms such as uberization, platform capitalism, and cyber-Fordism have also been employed by various studies in the humanities to address different dimensions of this phenomenon (Abílio, 2020; Antunes, 2020; Franco & Ferraz, 2019; Paula & Paes, 2021; Srnicek, 2017).

Historically, the term gig economy has been used to refer to informal labor arrangements characterized by piece-rate payment (or payment per service provided), in which workers themselves own the means of production, such as tools and other work-related inputs (Stanford, 2017). What has brought these dynamics back into prominence is precisely the renewal and expansion of this labor system through digital platforms.

The growing prominence of the new gig economy is grounded in factors such as the flexibilization of labor relations, which reduces labor costs, and the expansion of large technology corporations, which have driven the development of digital platforms capable of managing labor processes. These platforms facilitate connectivity among users and, in this context, mediate the relationship between workers and those who hire their services. At the same time, these platforms are capable of controlling the manner and pace at which work is performed, as well as workers' wages, with particularly strong effects in the service sector (Franco & Ferraz, 2019). This form of hiring, however, is informal, with no employment relationship formally established either between the worker and the client contracting the service or between the worker and the company that manages the platform.

This phenomenon thus represents the emergence of a form of management capable of responding to the demands imposed by transformations in the dynamics of capitalism, particularly the growing importance of the service sector and the advancement of information technology. These developments introduced significant changes to the world of work and created new alternatives for organizing labor across a wide range of sectors (Antunes, 2020).

Particularly in relation to labor relations, the term "uberization" has been employed to describe this set of characteristics that define the worker's relationship with the platform. Although the term refers to a wide variety of services offered through digital platforms operating under the same hiring model, its most direct association is with app-based passenger transportation services.

More broadly, these platforms have also expanded into specialized forms of autonomous labor, such as freight transportation and software development tasks, through what has been termed crowdworking (Calvete, 2023). In this regard, several issues have been debated, including the regulation of digital platforms and workers' struggles for labor rights.

The concept of digital Taylorism, with an even broader analytical scope, emerged within this context of the resurgence of informal labor. Its emergence is understood both as a result of the transformations brought about by so-called neoliberal policies and as a consequence of advances in information technology and digital platforms, identifying elements of classical Taylorism within this new configuration of work organization (Günsel & Yamen, 2020; Hizir et al., 2023; Konuk et al., 2023). The issue of informality and the new forms of labor management is central to contemporary capitalism and is certainly related to so-called neoliberalism. Nevertheless, the present analysis will be limited to the question of the labor process.

The relationship between digital platforms and informality has gained increasing visibility and has become the subject of a wide range of studies in Brazil and internationally, including within the field of management studies (Franco & Ferraz, 2019; Vaclavik et al., 2022). Beyond the discussion of economic impacts addressed in the literature on the gig economy, and the transformations in labor relations examined through debates on uberization, one aspect that remains comparatively underdeveloped is precisely the characterization of work organization within platform capitalism.

Some authors associated with the so-called Labour Process Theory (LPT) analyze this phenomenon through a critique of aspects such as direct control and task standardization. Noponen et al. (2024), for example, argue that the freedom and independence promised by platforms to workers are not actually realized and that, within platform capitalism, control is as stringent as it was under Taylorism. The comparison with classical Taylorism is not limited to issues of control but can also be identified in the problem of piece-rate payment systems and in forms of worker resistance. These analyses, however, do not seek to present the particular characteristics of work organization mediated through digital platforms.

This paper aims to critically analyze digital Taylorism and its use in describing the labor process in occupations organized through digital platforms. It assumes that labor mediated by digital platforms does not correspond to Taylorism, but rather to the historically earlier form of domestic labor. Drawing on the inflectionist approach to the labor process, which seeks to analyze it as a unity between technical basis and work organization (Paço Cunha, 2019; Moraes, 2003), the present text seeks to situate the historical stage within which platform-organized labor is embedded. It examines whether or not such labor shares an identity with Taylorism, considering the relationship between technical basis and work organization.

The paper takes the form of a theoretical essay, understood as one "characterized by its reflective and interpretative nature" (Meneghetti, 2011, p. 322), and it enables the exercise of a critical perspective consistent with the objective of developing a critical analysis of digital Taylorism. In addition to examining the foundations of digital Taylorism and its origins within the tradition of Labour Process Theory, the article presents the central elements of the inflectionist approach to the labor process and its contribution to the analysis of labor managed through digital platforms.

The next section presents the main arguments constituting digital Taylorism; this is followed by a discussion of methods of work organization based on a regressed technical basis and, subsequently, by a specific characterization of work organized through digital platforms. Finally, the concluding remarks are presented.

THE CENTRAL ASPECTS OF DIGITAL TAYLORISM

The new forms of work organization that have developed through digital platforms are largely understood more as a continuation than as a rupture with older forms of work organization. In this context, the concept of digital Taylorism emerges, seeking to demonstrate how classical Taylorism has been reformulated for the management of this new type of work. The article by Brown et al. (2011) is regarded as the seminal text that developed this concept. According to the authors, digital Taylorism "has given companies a powerful tool for employee surveillance and remote control to compare the performance of plants, offices, suppliers, managers, and workers located anywhere in the world" (Brown et al., 2011, p. 74). Originally, for these authors, the term referred to new forms of work organization in which software systems came to manage and divide knowledge-based work, dispensing with the need to concentrate workers within a single physical space.

The term, however, was not confined to intellectual labor. According to this interpretation, which has received further contributions incorporating additional elements, labor mediated through digital platforms exhibits several similarities with classical Taylorism, such as the capacity to control workers' activities, the standardization of tasks, and piece-rate payment systems. Present within digital Taylorism are "modes of standardisation, decomposition, quantification and surveillance of labour – often through forms of (semi-)automated management, cooperation and control" (Altenried, 2020, p. 2).

In light of the figure of the foreman within the Taylorist system, digital platforms assume the role of "the means of algorithmic management and surveillance to organise the labour process, as well as the automated measuring of results and feedback" (Altenried, 2020, p. 6). It is therefore essential to recognize that the applications emerging from digital platforms are understood according to their function within the organization of labor, rather than as an innovation in the technical basis itself.

If, therefore, "the characteristics of Taylorism (including workplace surveillance, control, and deskilling) can be used as a part of an emerging Digital Taylorism" (Park & Ryoo, 2023, p. 274), it is necessary to investigate the reasons for this. Considering this new contemporary form of Taylorism, it is possible to regard as exemplary those companies oriented toward the organization of autonomous workers' labor:

> Uber uses Digital Taylorism to perform everyday tasks and monitor drivers. Uber believes this is the most efficient and productive approach [2]. Thus, the jobs of Uber drivers must be organized automatically by the algorithmic architecture of the platform. In addition, it is similar to food delivery platforms, which have rating systems for their platform workers. They will decide automatically or let the users decide whether a task is performed successfully and rate the platform workers accordingly (Park & Ryoo, 2023, p. 275).

The authors thus emphasize the role of the control exercised by digital platforms as a factor that recalls Taylorism. A similar identification can also be found in examples of crowdworking: "Project Maven [...] involved not only engineers from Google, many of whom ended up revolting against the project, but also digital workers from a crowdwork platform" (Altenried, 2020, p. 5). In summary, even in more complex tasks, digital platforms have been employed because of their capacity to fragment labor processes, while in less complex activities they maintain control over workers' tasks.

This comparison with classical Taylorism, which strongly emphasizes the political dimensions of control, also equates the forms of workers' resistance, comparing "Uber drivers' avoidance and mocking of a new carpool service to the "soldiering" steelworkers in 1911, who limited their work effort in response to poor job conditions" (Noponen et al., 2024, p. 1708). These authors even argue that digital Taylorism produces a form of algorithmic labor that is fragmented and sequentially systematized, and which must be performed strictly according to prescribed instructions.

Given this emphasis on similarities—particularly regarding the division of labor and the intensification of control—an important aspect of analyses employing the category of digital Taylorism is their connection to the so-called Labour Process Theory. Authors such as Braverman (1980) and Friedman (1977), for example, place the same emphasis on the direct control exercised by Taylorism over the labor force, as previously discussed.

Following this analytical tendency, the difference between digital Taylorism and classical Taylorism lies in the agent responsible for supervising labor, since in the former "humans perform algorithmic work while being supervised by software algorithms, who possess no consideration for the workers humanity that a human supervisor may have" (Noponen et al., 2024, p. 1706).

This conception reduces Taylorism solely to a method of control; it obscures class struggle by placing algorithmic management (that is, software algorithms operating in the organization of labor) in the position of capital itself; and it allows for the interpretation that classical Taylorism might have been less harmful because of the supposed humanity of managers. Yet is management not still behind the same mechanisms of control, merely employing algorithms while representing the very same interests? The descriptions themselves demonstrate that algorithms and digital platforms do not constitute a new form of exercising control, nor do they replace management, but rather serve as a new technical apparatus through which the same control characteristic of historically earlier methods is exercised.

As Sartelli and Kabat (2014) have argued, the control exercised by management is common to the most varied forms of work organization in their pursuit of extracting surplus value, including methods that predate Taylorism. It is therefore necessary to identify differentiating elements capable of characterizing distinct forms of work organization, considering their specific role within class conflict itself. This is not precisely the result achieved through the use of the concept of digital Taylorism. Nevertheless, certain differences are acknowledged, although they are not regarded as sufficient to prevent this renewal of Taylorism. Comparatively,

> Unlike mechanical Taylorism, which required the concentration of labor in factories, digital Taylorism enables work activities to be dispersed and recombined from anywhere around the world in less than the time it takes to read this sentence (Brown et al., 2011, p. 72).

This point is important because it suggests that Taylorism can be replicated beyond specific spaces such as factories. However, Frederick Winslow Taylor (1995) himself considered that his methods were applicable to manual industrial operations, seeking greater precision in the coordinated execution of movements involved in the handling of tools in order to achieve higher productivity in combined labor.

Taylor and his team directed workers organized within the workplace in operations such as loading pig iron or handling shovels. Indeed, the careful selection of the physically most capable worker was one of the central aspects of the system. From a historical perspective, the dispersion of workers and their ownership of the means of labor —characteristics of labor organized through digital platforms — are inconsistent with these Taylorist principles precisely because they are typical of sectors that require different methods of work organization. It is therefore necessary to analyze the stage of the technical basis and the corresponding method of work organization associated with the role of digital platforms.

REGRESSED TECHNICAL BASIS AND ITS METHODS OF WORK ORGANIZATION

The discussion of the labor process within the inflectionist approach takes into account the relationship between the technical basis (that is, the stage of applied technological development) and the work organization (Cunha, 2019; Marx, 2013; Moraes, 2003). The categories that describe different stages of this relationship are revisited here: cooperation, manufacture, and large industry. First, this section considers the analysis of the regressed technical basis, since it is important to emphasize that the discussion concerning labor organized through digital platforms does not pertain to large industry, in which automation is established and workers become mere appendages of the machine system (Moraes, 2003).

Although digital platforms are themselves the result of an intensive incorporation of technology, they do not replace living labor in the provision of services such as passenger or freight transportation, nor in the work performed by programmers. They "are simply, thus, the apps or websites that mediate online economic activity, including paid work" (Moore & Joyce, 2020, p. 4). Thus, it is necessary to examine the categories of cooperation and manufacture.

As Moraes (2003) emphasizes, within cooperation the function of management was limited by the fact that labor remained concentrated in skilled workers. Thus, since only simpler tasks were divided, the production of certain commodities could remain entirely under the responsibility of a single artisan, because only that worker possessed mastery over the labor process involved. The alternative for increasing productivity, therefore, was to bring these artisans together, since productivity was "the exclusive property of the collective of workers" (Moraes, 2003, p. 73). It is important to consider that, as a method adapted to capitalism, the "simple cooperation continues to predominate in those branches of production in which capital operates on a large scale, without the division of labor or machinery playing a significant role" (Marx, 2013, p. 410). Indeed, the overcoming of cooperation depends upon technical advancement.

Because cooperation originated from pre-capitalist forms of labor, the measures of work organization engendered within it (such as the extension of the division of labor into simpler tasks, the transformation of the managerial function, and the concentration of artisans in a common workspace) established it as a form adapted to capitalism. In this sense, cooperation constituted a preparation for manufacture. Manufacture, another organizational form dependent upon living labor, focused on the possibilities for intensifying this labor through the exacerbation of the division of labor and the use of increasingly sophisticated tools. Within cooperation, there is no significant influence of the technical basis upon labor, while at the same time there remains a total dependence on the knowledge and skills of qualified workers. Cooperation is not superseded so long as dependence on human labor for the execution of specific tasks persists.

As Marx (2013, p. 411) describes, in manufacture, "workers from various independent trades, through whose hands a product must pass until its final completion, are brought together in the same workshop under the control of a single capitalist". This occurred, for example, in the process of carriage manufacturing. What, under cooperation, appeared as a result of the mere addition of workers, emerges in manufacture not as the ultimate outcome of this increase alone, but rather from the combination of different workers possessing different skills within a qualitative division of labor, all gathered within the same workspace.

As defined by Moraes (2003, p. 74): "the different partial tasks previously performed by the artisan (and by the 'wage-artisan' of simple cooperation) are assigned to different workers, thereby giving rise to the partial worker." It becomes evident that the principle of the division of labor is elevated to a condition that enhances productivity through the creation of possibilities for manufacturing increasingly sophisticated products. Concurrently, the previously indivisible body of workers' knowledge concentrated in the hands of the artisan is progressively broken down and distributed.

Several pathways lead to these transformations. The diversification of different forms of labor within the same workspace implies the emergence of partial specializations; thus the "tailor, the locksmith, and the other artificers, being now exclusively occupied in carriage-making, each gradually loses, through want of practice, the ability to carry on, to its full extent, his old handicraft" (Marx, 2013, p. 411). At this point, two characteristic features of manufacture must be emphasized: specialization and relative deskilling. Both are traits resulting from this division of labor, which places different specialists side by side. More advanced stages of manufacture became possible through the development of tools and the use of certain machines.

These stages of a regressed technical basis already contained elements that would later be systematized by Taylor. However, as Moraes (2003) clearly emphasized, Marx did not foresee Taylorism in the form it would eventually assume — nor could he have done so, since we are dealing with the domain of science that apprehends broad historical tendencies. Nevertheless, Marx identified central elements of the so-called "scientific organization of labor," such as deskilling and the increased control

of labor by management, already in the mid-nineteenth century. These were constitutive elements of the manufacturing system based on living labor that shaped the industrial labor process in a period prior to the ideal formulation developed by a figure such as Taylor at the end of the nineteenth century (which is why Taylorism is described as a late ideal formation in relation to the material development of its time). Indeed, Taylorism has been understood as the "culmination of a pre-existing tendency" (Braverman, 1980, p. 85).

Classical Taylorism, as a method of work organization typical of manufacture, was historically characterized by:

> A particular method of labor intensification that operates directly upon the labor force through the study of the movements performed within a production process, aiming at reducing the total wage mass while increasing productivity per worker (Cunha & Guedes, 2021, p. 666).

Considering the technical basis, it is therefore useful to examine the following synthesis presented in Table 1:

Table 1
Categories of labor process

	Simple cooperation	Manufacture	Modern manufacture
Operant principle	Subjective principle. Simultaneous occupation of workers and means of production.	Subjective principle. Natural and spontaneous division of labor. Variable capital.	Subjective principle in evanescence. Systematic division of labor. Variable capital.
Technical basis	The worker and their tool.	The worker and their tool. Progressive development of other forms of motive power.	The worker and their tool. Higher degree of mechanization through the introduction of the assembly line.
Organization of work	Accidental combination of the labor force. Rudimentary development of capital's command hierarchy.	Combination of partial workers accompanied by the progressive study of labor productivity.	Combination of partial workers with techniques for the intensification of labor. Culmination of studies on labor productivity and the application of Taylorism and Fordism.
Typical process	Parallel or interdependent labor processes with a low degree of division of labor.	Division of labor through interdependent functions organized collectively or along an assembly line.	Mechanized assembly line.

Source: Adapted from Cunha (2019).

Additionally, modern manufacture was characterized as an evolution in the application of technology within the limits of manufacture itself. It did not eliminate the centrality of living labor, but rather intensified and enhanced it through the introduction of assembly lines and machines adapted to the division of labor. Its implementation enabled the emergence of Fordism and mass production (Guedes & Cunha, 2023).

The evolution of the labor process cannot be understood in a linear manner, as though the emergence of a new technical basis necessarily eliminated preceding forms. Even within the same sector, the imposition of large-scale industry may continue to coexist and compete with manufacture or cooperation. Amid this process of consolidating the division of labor under a regressed technical basis, between cooperation and manufacture, there also existed the so-called putting-out system, in which workers received raw materials or inputs for production and manufactured commodities within their own homes, using the means available to them, while being remotely controlled by the owners of those inputs, who subsequently purchased the finished goods for resale.

This was a system of work organization situated in the space between cooperation and manufacture, and was evidently characteristic of a labor process centered on living labor. It is understood that "in the putting-out system, machinery was primitive and fixed capital was of little importance. The capital supplied by the manufacturer consisted primarily of circulating capital — stocks of goods in the process of production — and wage advances" (Marglin, 1978, p. 7).

With the putting-out system, the division of labor also developed, as each household or workshop became specialized in a particular task under managerial coordination. Thus, "it was through the separation of specialized tasks assigned to each worker that, prior to the introduction of expensive machinery, the capitalist was able to secure control over production"

(Marglin, 1978, p. 5). Large-scale textile industry maintained this domestic labor in more auxiliary operations, and in addition to guaranteeing a reduction in production costs for capital, the putting-out system also reduced the likelihood of worker resistance, particularly because workers were spatially dispersed (Marx, 2013).

The putting-out system, which historically preceded Taylorism, combined aspects of cooperation, such as low productivity, with characteristics of manufacture, such as worker specialization and the use of small-scale machinery, as shown in Table 1. It became suited to a system that dispensed with the concentration of workers within a single space and constituted a "transitional system," later superseded, though not entirely eliminated, by large-scale industry in the case of the textile sector, and by methods such as Taylorism in sectors that remained technologically regressed.

Equally important is the understanding that methods of work organization do not necessarily evolve in a manner analogous to what historically occurred in industry. Services organized through digital platforms, for example, are not performed in factories or similar spaces and therefore possess their own specific characteristics. For a clearer understanding of this aspect, it is necessary to analyze this type of labor more specifically.

DIGITAL PLATFORMS AS A METHOD OF WORK ORGANIZATION: THE RETURN TO PUTTING-OUT SYSTEM

In order to understand the nature of the labor process in activities organized through digital platforms, it is important to emphasize the assertion according to which "the characteristics of Digital Taylorism can be seen in online digital labor platforms or labor markets under the gig economy" (Park & Ryoo, 2023, p. 274). In other words, the types of labor encompassed by digital Taylorism are closely linked to the so-called gig economy, within which one finds the articulation of informal labor arrangements mediated through the internet, connecting workers with those demanding their services in real time (Vaclavik et al., 2022). These activities vary considerably, extending across multiple types of services.

The gig economy is used as a characterization of the informal economy, but with the emergence of digital platforms it has become a particular pattern of labor relations. Considering their specific function, digital platforms operate as intermediaries that connect different users, such as those offering services and those demanding them (Srnicek, 2017). Considering the nature of the activities that compose this new informal economy, some types of labor may be exemplified:

> The first involves work that is carried out and/or delivered entirely online; often termed 'crowdwork' (De Stefano, 2016) or 'online platform work' (Forde et al., 2017). Examples include design, translation and other creative work delivered via platforms such as Upwork or Fiverr, as well as unskilled online 'clickwork' like labeling photographs, transcribing short video clips or cleaning data, via e.g. Amazon Mechanical Turk or CrowdFlower. The second type involves work carried out in person, at the time and place where the service is provided often known as 'work on demand via apps' (De Stefano, 2016), or 'offline platform work' (Forde et al., 2017; Huws, Spender, Sydrdal, & Holts, 2017). Examples include taxi or delivery services run by Uber, Deliveroo or Instacart; domestic chores or cleaning via platforms such as TaskRabbit or Helpling; or dog-walking via DogBuddy or Rover (Moore & Joyce, 2020, p. 4).

Consequently, the technical basis rests on a subjective principle, in which the worker remains central and performs operations with the aid of labor tools such as vehicles, or even personal computers, smartphones, among others. In the case of crowdwork, workers are required to perform tasks through electronic devices; in passenger transport, the driver's labor is still necessary, even though vehicles, as tools of labor, have evolved in terms of equipment quality and transport capacity.

As a method of work organization, platforms are well suited to the allocation of this informal labor, since they "allow firms and individual clients to access individual workers on all continents in an instant and to seek out the most favourable price-quality combinations" (Haidar & Keune, 2021, p. 5). Its particularity

> [...] consists in the fact that the monitoring and evaluation of the workers is performed in an individualised, continuous and remote way. Furthermore, the algorithmic technology enables a refinement and concealment of the processes of standardisation, codification and appropriation of knowledge in its diverse forms (Haidar & Keune, 2021, p. 14).

Thus, it is possible to identify several characteristics of this specific form of work organization, such as "algorithmic allocation of work, digital tracking and monitoring technologies, integration of customer ratings, setting of prices for services provide, setting of pay rates for work conducted, engagement of labor on self-employed, and legal and regulatory arbitrage" (Joyce & Stuart, 2021, p. 166; Moore & Joyce, 2020, p. 5). These points indicate a departure from Taylorism, whose central concern lies in the rationalization of movements.

Digital platforms operate on types of labor whose prior organizational methods were even more rudimentary, with workers individually offering their services or being mediated by other firms with limited reach (such as subcontracting service companies or taxi operators). Therefore, platforms have emerged as a global intermediary capable of establishing connections more rapidly and across broader regions, increasing productivity by exercising mechanisms of control over the allocation of workers and the determination of their remuneration. In effect, from the standpoint of the content of this work organization, there are significant similarities with the older putting-out system.

Considering this comparison, it can be argued that in the classical putting-out system:

> Indeed, it was the extending reach of these merchants, and their capacity to sell into increasingly far-flung markets (thanks to improved transportation, integration of markets and currencies, etc.), that facilitated the expansion of this flexible new form of work organisation. Except for the absence of digitised systems for coordinating, supervising and compensating work, this business model is quite comparable to those of modern digital platforms (Stanford, 2017, p. 4).

Conversely, in the case of labor organized through digital platforms:

> 1. Work is performed on an on-demand or as-needed basis. Producers only work when their services are immediately required, and there is no guarantee of ongoing engagement. 2. Work is compensated on a piece-work basis. Producers are paid for each discrete task or unit of output, not for their time. 3. Producers are required to supply their own capital equipment. This typically includes providing the place where work occurs (home, car, etc.), as well as any tools and equipment utilised directly in production. Because individual workers' financial capacity is limited, the capital requirements of platform work (at least capital used directly by workers) are typically relatively small (although these assets can be significant in the lives of the workers who must purchase and maintain them). 4. The entity organising the work is distinct from the end-user or final consumer of the output, implying a triangular relationship between the producer, the end-user and the intermediary. 5. Some form of digital intermediation is utilised to commission the work, supervise it, deliver it to the final customer, and facilitate payment (Stanford, 2017, p. 3).

They are similar in terms of the method of work organization, the mechanisms of control, and the very relation of subordination of labor to capital. In addition,

> Centralised control over its proprietary dispatch application, which drivers need to find customers, is the basis for its claim to this revenue – just as the merchant's centralised capacity to connect home-made goods with final purchasers was the basis for its claim to a margin of total revenues under the putting-out system (Stanford, 2017, p. 6).

In labor organized through digital platforms, first, there is a persistence of a manufacturing-type technical basis, insofar as the role of the worker and the centrality of variable capital are not fundamentally altered. And, as in the former putting-out system, it involves the organization of work in which workers are geographically dispersed, possess their own means of labor and bear their associated costs, yet do not retain ownership of the product of their labor (Bartosz, 2020).

Evidently, this is not a direct analogy, since the putting-out system was originally suited to factory production; however, the points of similarity are located in crucial aspects. It refers to a form of work organization grounded in the same technical basis, manufacture (Table 1), the same relation of subordination between labor and management, and a method oriented toward the same purpose, namely the increase of productivity in sectors where the concentration of workers in a single location is either unfeasible or unnecessary, and where there are technical constraints.

In this sense, Stanford argues that "what really distinguishes Uber from traditional taxi companies, therefore, is the organisation of work within its service, not the technology of production" (Stanford, 2017, p. 6). The changes brought about by digital platforms have occurred primarily at the normative level, breaking with restrictions and licensing requirements traditionally imposed on taxi services, thereby enabling a larger number of drivers to be organized under a single company. However, it should not be overlooked that the technology capable of coordinating the work of millions of workers, as previously described, represents a significant leap in work organization and has a decisive impact on productivity. In sum, this shift expands the reach of a single platform, allowing it to organize a greater number of workers who were previously divided across different geographic regions.

According to the author, the transformation brought about by the "uberization" of taxi services is, in fact, analogous to the transformation that the putting-out system produced in relation to the guild system, insofar as both constitute new methods of work organization:

> The putting-out model was developed by merchant capitalists largely to subvert restrictions on entry imposed by the guilds, which allocated particular regional markets to authorised suppliers. In a similar frontal attack on regulation, Uber's strategy has been premised on an effort to sidestep municipal rules limiting entry of taxi services (Stanford, 2017, p. 6).

Their limitations are also made equally explicit: "that constrain its usefulness for most jobs. For maximum impact, piece-work compensation must be calculated at the individual level, making the system unwieldy in jobs which require cooperation among teams of workers" (Stanford, 2017, p. 13). For this reason, and in light of other limitations already demonstrated, such as the need for the dispersion of workers, it is understood that digital platforms do not correspond to Taylorism, but rather to earlier organizational methods situated within a manufacturing-type technical basis, thereby configuring a new form of the putting-out system.

Synthetically, "whereas historically the putting-out system of home-based artisanal workshops preceded the movement of work to the factories of the industrial era, labour platforms are reversing this development and are moving work back to the homes of individuals" (Haidar & Keune, 2021, p. 8). However, this does not necessarily constitute a regression, but rather a possible advancement in light of technical and organizational constraints, such as the complexities imposed by spatial distance.

The comparison between the classical putting-out system and digital platforms shows that the latter possess characteristics capable of making the working day more productive, through the allocation of workers based on the measurement of multiple variables and the automatic determination of payment. As a method of work organization, digital platforms push a given technical basis to the highest possible level of surplus-value extraction. However, differences between factory-based labor and the service sector cannot be overlooked.

Just as Taylorism emerged as a historical necessity for manufacturing sectors, the new form of the putting-out system emerges as an appropriate method of work organization for these contemporary occupations within the service sector. Therefore, this does not constitute a return to the past, but rather the advancement of sectors that remain at a lower level of technological development.

Despite the similarities, such as a manufacturing-type technical basis, the examples discussed make it clear that digital platforms are not equivalent to Taylorism. First, there is no requirement to refine the physical movements of workers grouped in factories; and second, the historical necessity of Taylorism in industry and certain office sectors appears to be absent in the domains in which platforms operate.

Digital platforms, in turn, seek to make geographically dispersed labor reasonably productive for capital. Marx (2013) argued that the supersession of stages of the technical basis does not imply the elimination of earlier stages, and this also appears to be a reasonable proposition regarding methods of work organization. This is particularly relevant because, as Stanford (2017) notes, putting-out has remained active and, with digital platforms, has once again become prominent.

What is at stake in platform-organized labor is a transition that, in relation to factory labor, can be compared to a period prior to Taylorism. To characterize work organized through platforms, it is necessary to consider informality, a manufacturing-type technical basis, and the organizational logic typical of the putting-out system. This does not imply, however, that the future

will necessarily consist of the application of Taylorism to platforms, since its characteristics appear ill-suited to the organization of these occupations. The fact that digital platforms organize labor in the service sector is decisive, as this sector has not undergone the same trajectory of industrial development that historically gave rise to Taylorism. Operating on a similar technical basis, Taylorism and digital platforms constitute responses to different problems of work organization.

FINAL CONSIDERATIONS

This study aimed to critically examine the concept of digital Taylorism. Drawing on the inflectionist approach to the labor process, it analyzed how digital Taylorism is inadequate for describing the method of work organization employed by digital platforms. Characteristics such as workers' ownership of the means of production and their geographical dispersion bring this form closer to a renewed form of the putting-out system, which has already been superseded in industry but remains present in certain service activities.

The present study departed from the understanding that the debate surrounding digital Taylorism is primarily focused on aspects of labor force control, while overlooking dimensions of the relationship between technical basis and work organization as developed within the Marxian tradition. In this sense, and in line with authors such as Stanford (2017), Joyce and Stuart (2021), the paper defends the thesis that the contemporary gig economy has given rise to a renewed form of the putting-out system. In particular, labor organized through digital platforms operates on a technical basis still situated at the manufacturing stage, which, through new organizational forms such as app-based mediation, seeks to maximize labor productivity within the constraints of that technical basis.

In terms of intended outcomes, that is, increasing productivity within the same technical basis, work organization via digital applications may resemble Taylorism. However, the differentiating elements are even more significant. Taylorism, grounded in factory settings and the concentration of workers, was historically linked to sectors that benefited from the division of labor into narrowly specialized tasks, as it sought to overcome the concentration of skills in a single worker.

Digital platforms, in turn, organize labor in which the task consists of the relationship between operator and tool (the worker and their vehicle, for instance, in the case of drivers and couriers; or the worker and a personal computer in other activities). Yet, since the nature of the work is not essentially factory-based, spatial concentration is not required, making it more compatible with the forms of remote control enabled by digital applications.

Thus, more important than the evident similarities between the industrial transformation brought about by Taylorism-Fordism and the role of platforms in organizing labor within the new gig economy is the emphasis on their substantive differences. Industry historically combined conditions that facilitated the exhaustion of manufacture, such as the ability to concentrate multiple workers in the same space performing identical operations, and the development of tools and accessories that replicated skills previously monopolized by craftsmen and skilled workers (Moraes, 2003).

In the sectors where digital platforms operate, such possibilities have not materialized in the same way. In transport services, for example, vehicles have evolved in several respects, but not to the point of rendering the driver's labor obsolete; likewise, the nature of the task does not allow for the concentration of multiple workers in a single workspace, thus requiring their spatial distribution. In this sense, the present study also contributes to critical approaches to digital Taylorism.

Such approaches point either to the discontinuity between Taylorist methods and platform-based work organization (Nyckel, 2020), or to the insufficiency of Taylorism for characterizing new forms of organizational control (Menz & Nies, 2024). Beyond this, the present argument reinforces the understanding that work organization typical of digital platforms exhibits a nature incompatible with Taylorism and with methods corresponding to even more regressed forms of work organization.

This new form of organization does not modify the technical basis of labor, which remains manufacturing in character (the worker and their tool), but rather pushes it to its limits, extracting maximum productivity through a pathway distinct from that observed in industry. Beyond a manufacturing technical basis, it is also possible to argue that the work organization characteristic of the app-based economy is itself analytically regressed, not due to a technical deficiency of the applications, but because the inherent complexity of the tasks has constrained the pace of organizational development. Just as Taylorism

contributed to the overcoming of the putting-out system within industrial settings, digital platforms represent the arrival, in the sectors in which they operate (such as transport services and crowdwork), of a renewed form of the putting-out system, now transformed and more productive, which emerges as an alternative modality for the exploitation of labor.

Building on this essay-based research, which remains at a more general level of discussion, the intention is to further the debate developed by the inflectionist approach, while also opening new lines of inquiry and proposing new research agendas, including empirical studies, focused on the nature of the labor process in digital platforms — given their growing relevance in Brazil and worldwide — addressing the specificities of work organization across different sectors and the evolution of technical forms in relation to class conflict.

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Leandro Theodoro Guedes: Formal analysis (Lead); Investigation (Lead); Methodology (Lead); Writing – original draft (Lead); Writing – review & editing (Lead).

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