Precarization of teaching work: teaching platforms in the context of the factory

Precarização do trabalho docente: plataformas de ensino no contexto da fábrica difusa

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Abstract

This article discusses issues related to various initiatives for the platformization of teaching work in the current context. The study consists of an empirical effort to locate and compare digital teaching platforms, and proposes a critical analysis supported by a relevant bibliographic and analytical body. The main objective is to show, through a systematized analysis, how the kidnapping and precarization of teaching work via digital teaching platforms can occur. These operations are concealed by a neoliberal semantics that seeks to confer soothed idiomatic meaning associations (autonomy, entrepreneurship etc.) on a process in which those who work for or under the control of digital platforms end up being harmed.

Keywords: education; precarization; digital platforms; diffuse factory; algorithms.

Resumo

Este artigo discute questões relativas às diversas iniciativas de plataformização do trabalho docente no contexto atual. O trabalho consiste num esforço empírico de localização e cotejamento de plataformas digitais de ensino, propondo, também, uma análise crítica sustentada por corpo bibliográfico e analítico pertinente. O principal objetivo é indicar, por meio de uma análise sistematizada, como podem se operar, via plataformas digitais de ensino, o sequestro e a precarização do trabalho docente, dissimulado por uma semântica neoliberal que busca conferir edulcoradas associações de sentido idiomático (autonomia, empreendedorismo, etc.) a um processo em que aqueles que trabalham para ou sob o controle das plataformas digitais acabam sendo prejudicados.

Palavras-chave: *educação; precarização; plataformas digitais; fábrica difusa; algoritmos.*

Introduction

The premise of this paper is to problematize the precariousness of teaching work in the face of new communication and information technologies, understanding this phenomenon as a variant of a process of reorganization of the productive chain initiated in the second half of the twentieth century, called by Italian intellectuals *diffuse factory* (Negri, 2006).

Such process, marked by automation, outsourcing, decentralization and flexibility of industrial plants has been imposed since the 1970s as a way of demobilizing European labor movements, especially in Italy. In the 21st century, the geographical dispersion of production processes across global peripheries, in search of cheap labor, tax exceptions and flexible or non-existent labor legislation, becomes a global trend facilitated by the advancement of telematic and computer networks, enabling exchange of instant information (Lazzarato and Negri, 2001).

The empirical basis of this paper results from incursions of analysis and comparison, in digital teaching platforms. The result of this work is treated from a critical bibliography, seeking to support the hypothesis that, at the whim of algorithms, in a context of platform industrial capitalism (Amorim, Moreira and Bridi, 2022), teaching work suffers from the platformization, a dramatic process of precariousness, equivalent to what occurs in other bases, such as, for example, Uber .

Epistemically anchoring the analyzes is the general assumption that communication technologies, from their simplest to the most advanced physical forms, are not only means

of expression, but also means of production. Indeed, communication and its material means are intrinsic to all human forms of work and social organization, becoming indispensable elements both for the productive forces and for the social relations of production and power that result from it (Williams, 1999, p. 71).

The lines below assume, therefore, that informational and communicative technologies are not just means of expression or diffusion, but rather engender social relations of production. Indeed, based on this assumption, this text seeks to draw a critical overview of the processes of digitization of teaching by the so-called *Learning Management Systems* and their possible effects in terms of kidnapping and precariousness/uberization of teaching work.

In this context, cannot be disregarded the social and economic pressures, which have acted negatively on the supply of teaching work in the formal market, collaborating, in a more general process, to the facilitation of the co-option of teachers for digital teaching platforms.

Thus, in a first step, the article presents the situation of work in the Brazilian context in the years before and immediately after the covid-19 pandemic, having as a starting point the labor reform (law n. 13.467, of 2017). The focus is not random, rather, it serves to demarcate the challenges that the field of formal and paid work has been facing in Brazil and in teaching work.

In the second stage, resulting from the first, the article seeks to present an X-ray made on digital content platforms that offer both short courses and reinforcement classes or even thematic lectures offering users/students, upon payment of fees or monthly

fees, synchronous connection and /or asynchronous with professors registered there. In this environment, a platformized educational services, the argument defended here is that teachers find working conditions – problematic – analogous to those seen on the Uber platform. Finally, it is supported that the lack of regulation feeds the precariousness of teaching work disguised as a sweetened discourse of entrepreneurship.

All this unfolding in a contemporaneity engendered by the collective sharing of a temporal experience affected: by climate catastrophes; by the impact of human action on Earth at unprecedented geological levels; by the scourge of pandemics; by economic insecurity in the face of highly stressed, connected and volatile economies; by the obsolescence and disappearance of traditional professions or, at the limit, in their traditional form; by psychic unrest generated by the exposure of domesticities, inadvertently or voluntarily, in a mind-boggling profusion of posts on social media; by the ubiquity of the work that unfolds, in the so-called diffuse factory (Negri, 2006), at any time and in any place; by the impacts and pressures of these elements on the configuration and occupation of cities. That is, the lines below seek an approach to the precariousness of teaching work in times that some have agreed to call the Anthropocene (Latour, 1994) (Turin, 2019).

Entrepreneurship or precariousness

Since the 1990s, Brazil has been experiencing a growing trend of precarious work. This situation, which used to materialize through atypical forms of hiring, such as temporary, self-employed, outsourced work, among others, received a formal seal in Brazil in the second decade of the 21st century. Corroborating this general trend in the world of work, markedly neoliberal, the labor reform (law n. 13,46, of 2017) ratified changes in the rules on working hours, remuneration and career plan. With the formal justification of generating more jobs, but also in response to pressure from employers, this reform would incorporate, in practice, a typically neoliberal current lexicon. The buzzwords "flexibility", "capabilities", "resilience", "entrepreneurship" stand out which, beyond simple words, have even had a semantic impact on the configuration of contemporary subjectivities that, for the good or, perhaps, more to evil, is yet to be measured (Lazzarato and Negri, 2001), (Leary , 2018) (Turin, 2019).

In any case, if the justification was to generate new jobs by making the labor market more flexible, simplifying relations between workers and employers, subsequent years showed that this reform did not have the desired effects. Otherwise,

let's look at a series of data collected by the IBGE (Instituto Brasileiro de Geografia e Estatística) listed here.

The number of employees without a formal contract, according to the Continuous National Household Sample Survey - Continuous PNAD (Pesquisa Nacional por Amostra de Domicílios Contínua - PNAD Contínua) released in November 2022, was estimated at 13 million and 212 thousand in Brazil. The unemployed population, that is, those people who did not have a job, in a given reference period, but were willing to work and who, for that, took some effective measure in the last 30 days, was estimated at around 9 million and 460 thousand people (IBGE, 2022a). These unemployment rates are the highest since the historical series started in 2012.

Poverty indices are also among the highest in the historical series. In 2021, considering the poverty markers established by the World Bank, Brazil reached the sad mark of 62.5 million people (almost 30% of the Brazil population) in this situation and, still, 17.9 million (8.4% of our population) in extreme poverty. This is a record increase since the beginning of the series, also in 2012. No less important and tragic is the finding that, in 2021, all income brackets showed a drop in average per capita household income, with the greatest decrease *being between* the poorest (IBGE, 2022b).

In addition to the increase in poverty rates, the National Health Survey (PNS) 2019 – Accidents, violence, communicable diseases, sexual activity, work characteristics and social support, a little earlier and also from IBGE, indicates that, in Brazil in 2019, 3.5 million individuals interrupted their routine activities due to psychological, physical or sexual violence. Of this group, women (15.4%) were the most impacted compared to men (7.6%), as well as self-declared black people (14.5%) in contrast to 11.0% of self-declared white people and 12 .2% of browns (IBGE, 2019).

These indicators, namely unemployment, poverty and violence, corroborate, therefore, important criticisms of the labor reform (law n. 13,467, of 2017), demonstrating a much harsher reality than that idealized from the terms so dear to the neoliberal lexicon "flexibilization", "innovation", "resilience", etc., which, in turn, were mobilized to justify its implementation. Reality crossed and catalysed, it should be said, by the pandemic context. In this scenario, a fundamental element to be considered are the technological transformations that, if on the one hand allowed the emergence of new workspaces, on the other hand, provoked changes in employment relations and conditions, many of them engendered and legitimized by the labor reform.

The education sector, on the other hand, already under pressure from the changes in the configuration of the 2017 reform, will thus suffer a new impact with the advent of the covid-19 pandemic. In this context, what was seen was an impressive acceleration of the process of digitalization of education, following what was happening in society as a whole. In a very short time, teachers and other professionals in the educational field had to adapt to the new requirements, immersing themselves in a disruptive process of transforming their pedagogical practices, including educational management, in which digital technologies, which were already gaining importance, began to figure in the spotlight (Nóvoa and Alvim, 2020).

Working in a *home office* (improvising spaces for domestic transmission), using social networks, interaction applications, *games*, recording videos, producing content to be made available on the internet, among other practices, have become necessary skills for teaching. It wouldn't just be a change of form. By inhabiting the most varied web conferencing platforms, teachers began to face the contingency of speaking to an invisible audience, not knowing if they were being seen and heard and when, nor by whom they were being observed. If a supposed teaching took place, the verification of learning was quite deficient. In addition, without much preparation, teachers suddenly had to learn to deal with a generation that learns through memes and that, increasingly, in the rapid transition of screens, associates reasoning/learning from the frame of the laughable, the playful and the ephemeral.

In this context of work overload and insecurity, situations of illness among teachers (depression, burnout syndrome, stress, moderate or severe anxiety) that previously existed, have worsened since the pandemic. This is what Guimarães (2021) points out in an investigation about the working conditions of sociology teachers in Paraná/Brazil during the pandemic period. It will not be surprising to see similar situations in the rest of the country. Mobilizing data from the Ministry of Education, Pereira, Santos and Manenti (2020) indicate that the difficult or even non-adaptation to the new reality of work (remote and in a pandemic period) led teachers to physical and mental illness, implying leave for health reasons, layoffs, including voluntary ones.

As outlined by Previtali and Fagini (2022), who analyzed teaching work in Brazilian Basic Education in the face of the pandemic amid the spread of telework in the wake of Industry 4.0, neoliberal capitalism and New Public Management (Nova Gestão Pública-NGP), the sudden use of new technologies implied the "deepening of the already precarious teaching career under the pandemic". Strictly following the neoliberal prescription propagated by the globalized world, such processes emphasized "privatization and outsourcing processes in order to make public services *business niches* for capital" (ibid., p. 157; italics in the original). It is precisely some of these niches that this article deals with.

Firstly, however, it is worth warning that this is not a matter of gratuitously attacking the new communication technologies, propagating nostalgia and a return to limestone chalk dust and the blackboard. The new communication technologies, telematics, are there and they are inescapable. However, it is a serious danger to naively regard them as panaceas. One must draw attention to the pitfalls inherent in them in an attentive and cautious way.

Among these pitfalls is the belief that the much-publicized freedom gained through the use of new digital technologies, flexible working hours, and worker autonomy are free. In fact, they come at a price. The argument that follows seeks to demonstrate that the digitization of teaching, in the way it has been carried out, acquires the form of a *device* as used by Giorgio Agamben: a power structure that operates on multiple levels, including the regulation of behavior, the production of subjectivities, the management of information and the organization of social life (Agamben, 2019).

More than means of communication, *Learning Management Systems* engender social relations of production, in which, in a system of unequal exchanges, the precarious side is that the teacher, who now sees his work effort co-opted, platformized, in a process understood by specialists as a tributary of a new phase of capitalism in which the economic exploitation of data, mobilized by algorithms, occupies a central place in new private enterprises (Srnicek, 2017).

Diffuse factory, Platform Capitalism and Platform Industrial Capitalism

Srnicek (2017) called platform capitalism, the contemporary process of financial accumulation that presupposes new business models in which algorithms and data, controlled and extracted from platformized telematic networks, play a preponderant role.

Going further and based on the assumption that the processes of financial accumulation and exploitation of work via platforms correspond to empirical evidence of historical reiteration and, more than that, of the radicalization and spread of industrial logics, Amorim, Moreira and Birdi (2022) added *industrial* to the expression coined by Srnicek.

The initiatives to technically name the contemporary processes of financial accumulation, which admit new business models of measuring profits and labor exploitation, are multiple and challenging. In the case of capitalism and its contemporary forms, the situation is complicated by the high

volatility of the ongoing phenomena. This article is not intended to be an epistemological initiative in search of the most precise nomination to define the current context of capitalism. In fact, it seeks to mobilize concepts that can be used as a key to understanding and specifically delimiting the events that occur within *Learning Management Systems*, giving greater attention to the precariousness of work. In this direction, considering that the *platform industrial capitalism formula* assumes digital platforms as "a synthesis of the industry-form and one of the central contemporary forms of surplus labor extraction" (Amorim, Moreira and Birdi , 2022, p. 2), it fits very well the situations that will be explained later in this article.

In the same way, the concept of diffuse factory is activated (Negri, 2006). This concept is valid for the intentions of this article insofar, as indicated before, it marks the processes of dispersion, spreading and ubiquity of labor exploitation chains, which, as it is defended, are brands of platforms. Moreover, it confers a trace of historicity, signaling the workers' struggle processes and the relocation of the manufacturing sector from the 1970s of the 20th century, which, in turn, gave rise to processes of dispersion of the industrial parks and their lines of production.

The exploitation of labor, which was once a battle in the factory (between the workers on the ground and the bosses in the control center), (Decca, 2004) is gradually gaining new contours in *platform industrial capitalism*, arising from the technological sophistication and the means of labor control that it makes possible. If, in the traditional factory, the means of production were in the hands of the owners of the enterprises, in

industrial platform capitalism, they belong to the worker. Take the case of Uber. As is known, on this platform the professional needs to enter the job market, taking, at his own expense, all the material necessary to carry out the service. So, he must pay for the car, gas, oil change, and tire rotation. This is the process of subordinate self-management, using the terms of Abílio (2019).

In other cases of platform professionals, such as a manicurist, for example, the work material (pliers, nail polish and other devices) falls under their responsibility (Abílio, 2017). If you are a designer, you have to pay for *software licenses* as well as a powerful computer and the electricity bill (André, Da Silva and Nascimento, 2019).

In this context, the proletarian distances himself from the one traditionally described by Marx (2011) who occupies the factory floor. That's because, as we indicated before, the factory has changed. If, in the textile factory discussed by Marx, time (from abusive days to eight hours with a break, conquered from the workers' historic struggle) and space (from unhealthy and unsafe sheds) were well defined; currently we have the fuzzy factory, that works anytime, anywhere, in which time and space are subjugated in favor of measuring profits through the co-option of surplus labor.

Time becomes all the time the worker can stand to work, and space becomes every city or region the worker manages to reach. There are no more limits in this new organization of the production chain. In this context of platform industrial capitalism (Amorim, Moreira and Birdi, 2022), there is a huge expansion of worker informality, with a direct exploitation of this informality.

With the expansion of the relationship of services, outsourcing and production that merges with the city's own territory, we perceive a dismantling of social labor protection. We can also say that the flexibility of work, which is touted by companies, ends up transferring risks and insecurity to the worker (Standing, 2013).

In addition, through computers, *smartphones* and platform algorithms, which never stop notifying the worker, we have an invasion of domestic space (Bruno, 2009). The diffused factory worker stays working as long as he can, as far as he can go. This process of precariousness is so multidimensional that it affects the subject in his psychosocial aspects, both inside and outside work, reaching the point of engendering a new subjectivity (Franco, Druck, Selingmann-Silva, 2010).

Precariousness seems to be evident when analyzed at a distance from the problem. However, this ubiquitous form of diffuse factory bias takes workers into a symbiotic relationship, in the psychoanalytical sense of the term, in which the connection is so intimate that it impairs rationalization, the workers' critical capacities and, not infrequently, takes away their strength to look for other jobs. (Cant, 2021).

For Cant(2021), the discursive magnetism of the platforms is great, offering, as attractions, high earnings and total independence, as evidenced by Uber's own advertising, otherwise, let's see:

> make good money; you can drive and earn as much as you want; the more you drive, the more you earn; set your own hours; no office or boss; that means you can start and stop whenever you want; and at Uber, you call the shots. (Uber, 2023)

In a context of employment regressions, advertising is indeed very persuasive. However, it feeds a kind of vicious cycle that imprisons the worker, as reported by Slee (2017) and Cant (2021). But, beyond the seductive discourse, there is still – dangerously hidden – another tool that mobilizes this cycle: the algorithms. The understanding of the processes of precariousness of contemporary work, through the co-option of workers by digital platforms, inescapably passes through algorithms.

Alan Turing, English mathematician, in 1936, defined algorithms as an unambiguous and ordered set of executable steps that define a finite process (Turing, 1936). That is, an algorithm is a set of rules and logical procedures that, with a certain number of steps, intend to lead to the solution of a previously defined problem (Santos, 2022).

Algorithms are the greatest assets of companies in the context of platform industrial capitalism. It is these complex mathematical operations that define, in the case of Uber trips, for example, which driver will pick up a certain passenger and vice versa. Tom Slee (2017) calls this process the sharing economy and defines it as a new wave of businesses that use the open internet and proprietary algorithms to connect consumers with service providers, with the promise of helping people take control of their lives, making them micro-entrepreneurs, entrepreneurs of their own business.

Again, the jargon with a strong psychological appeal disguises the fact that, unaware of algorithmic logic, workers fail to understand the intentions of the companies they work for and the understanding of the process that determines their working conditions and hours. Any attempt at a reaction in this case tends to be quixotic.

Another important fact is the fact that companies, like Uber, are characterized by the fact that they do not have employees. According to its statutes, all workers are merely "partners", a euphemism for the term "precarious worker", since, as we said, all the burdens of the business fall on them. For Franco, Druck and Seligmann-Silva (2010, p. 231), the constant precariousness in the worker's life "are processes of domination that mix insecurity, uncertainty, subjection, competition, proliferation of mistrust and individualism, kidnapping of time and subjectivity".

More than just the financial burden, the precarious worker also bears the burden of service quality, which is measured through some reputation system. Practically all companies that work to make workers precarious submit their "partners" to be judged by service takers. With rating or star systems, the individual who hires the service provider has the right to make an evaluation of that service provided.

These evaluations, however, are crossed by different subjectivities (from bad moods, psychic projections and even sexism or racism) that, not rarely, are unfair in relation to workers. Not least, such judgments have a great weight on the algorithms and, according

to this rather questionable evaluation system, a few low marks are enough for the professional to be punished or even disconnected from the service he performs through the application.

It will be demonstrated that, in this systematic evaluation platform, teachers are also in the hot seat. It is natural for students to evaluate teachers, after all, everyone who has passed through school benches has already judged their teachers well or badly at some point in their lives. The difference with the algorithmic precariousness is that now such judgments are decisive factors for the permanence or not of a teacher in a certain digital school or application. In addition, interfering in these evaluation processes, ideological insults to teachers have become quite frequent in recent years (Penna and Aquino, 2023).

In many applications, students, at the end of the course, evaluate the professor and all his teaching material, giving zero to five stars in questions such as "didactics", "support material", "content", among others. But how many students on these platforms have enough impartiality and a sense of justice to, in fact, give a balanced grade in the "didactic" item, for example? How many dominate pedagogical methods, didactics and other resources that could result in a balanced assessment?

Cathy O'Neil (2017) recalls that, in education, algorithms cannot be used for rankings or fair decisions. This is because the service contractor, that is, the student, is not able to understand the extent of what he is learning immediately after the class or course. Certain concepts are only understood in their entirety months, maybe years after the class. Certain ideas can only be executed when the opportunity presents itself, and often such opportunities only appear long after class. Just as a brief example, we can mention sine and cosine, nightmares of many high school students, normally only understood later, in an engineering College.

The result of this type of ranking is to treat the teacher as a precarious professional from another type of service. Thus, in the same way that an Uber driver ends up becoming submissive to the starlets of his passengers (Slee, 2017), teachers also end up being afraid of their students' judgment. A teacher afraid of this judgment can be devastating for education (O'Neil, 2017), since the educational process does not depend only on teachers, but also on the whole of reality and social interaction (Vigotski, 1998).

These assessments, however, are made, and they are done in a careless way. They disregard a myriad of relational variables, from personal temperaments to mood on the day and time of the assessment. That is, more than being technical, this judgment is profoundly permeated by subjectivities.

However, such judgments have a great weight on the algorithms, and, according to this simulacrum of "meritocracy", a few low grades are enough for the professional to be punished or even disconnected from the service he performs through the application.

The digital platforms

If the elements listed above are present among professionals who sell their services to digital platforms for urban transport, food deliveries and others, they have also become part of the lives of teachers who, for one reason or another, sell their services to *Learning Management Systems*. Let's see some examples.

In a quick search on the world wide web, we noticed several platforms that offer students quick courses or reinforcement classes, sometimes purchased separately, and, in some cases, through subscription, through which the individual pay a monthly fee and have access to as many courses or classes as you want.

Just like Uber, which connects passengers to drivers, Superprof (www.superprof.com.br) puts teachers in touch with students. The student opens the platform, researches which area of knowledge, discipline or content he needs to learn and is offered a list of professors to solve that doubt. Teachers are offered to potential students through a prominent photo and a phrase that is supposed to captivate the student. In addition, next to the professor's name, there is a grade, on a scale of 1 to 5, which are the grades given by the students to that educator. A little below, the price of the hour/class charged by the teacher and information if that professional has any kind of promotion, such as the first free class or discount on class packages. When the student clicks on the professor's photo, a new page opens, which contains some other information about the professor, such as his/her education, specialties and some testimonials from former students. In addition to the repetition of the photograph, the value of each class and the general grade of your reputation.

At Plurall (https://aulasparticulars. plurall.net/), the hiring system is very similar to the platform presented above. The potential student enters the platform, registers and chooses which discipline, topic or area of knowledge he needs help with, and a professor is assigned to help him. With a slightly more confusing navigation at first, it offers some of the same indications as the others, that is: a photo of the professor, the discipline or content and the price he charges per class. The difference here is that the vacant class schedules are highlighted, for the student to schedule their class even before making contact with the teacher. Also, the reputation system is not visible.

With a less attractive look, there is also the Profes platform (www.profes.com.br), which already boasts "At Profes you can find *more than 10,000 private teachers*" (emphasis on the website). In this tool, the student is faced with a series of teachers on the home page, and the platform shows three of their performances. The student/user can hire professors to carry out a more complete follow-up of their academic situation, or for just one class, on a subject, or, also, to help them with their tasks. There is a difference here, however. Searching moore deeply in the website, we have alternatives ranging from tasks from elementary school I to doctorate. There is a service for correcting theses, dissertations and TCCs, indicating that this platform goes beyond mere "helping with everyday tasks". The plataform explains how this process works (Profes, 2023):

• Enter the form and start the task creation process

• Fill in the data of the task to be solved with details

• Finalize the payment, deposit, in the amount you determined

• We will send your assignment to our best teachers

• A Profes teacher will pick up the task for resolution

• If you liked it, rate the resolution and the amount will be debited

• When approving the resolution, the value will be transferred to the teacher

• If you don't like the resolution, block the task and ask for a refund of its value.

• The full refund of the amount will be made on your card or, in the case of a payment slip, on your checking account.

It is interesting to notice that, in this flowchart, the student cannot even choose which professional will work in his work. Just like an Uber driver, who cannot be chosen by the passenger, here your work is also at the mercy of the platform's algorithmic choice.

In addition to platforms for private classes in the sense more focused on traditional, curricular teaching, there are also applications for open courses, in which the teacher, in the understanding of this article, is also subject to uberization. One of the best known is the Dutch company Hotmart, which is already present in seven countries (Hotmart, 2023). This company says in its advertisements to be "The complete platform to transform content creators into entrepreneurs". It, like Uber, only mediates content producers (who may or may not be teachers) and potential customers. In this case, it acts more like a distribution and sales channel, leaving the professor in charge of all the rest of the processes necessary to teach his course. Hotmart, in its business model, considers a teacher who has a strong presence on digital social networks. This is made explicit when the teacher registers. To calculate earnings, the main number used by the platform is the number of followers on social media. The more followers, the greater potential for sales of courses.

Upon entering the platform, the user (and student) can choose from a myriad of courses, with a wide range of durations and prices. When clicking on the desired course, a new page will open, normally containing an introductory video by the professor, a brief description of what will be learned when enrolling, the value of the course and its reputation, as measured by students. This reputation, like Uber or other sharing economy apps, is ranked between zero and five stars.

A direct competitor of Hotmart is the US company Udemy (www.udemy.com/), which promises to be " the leading global marketplace for teaching and learning, connecting students from anywhere with the best instructors around the world" (Udemy, 2023a).The platform says focused on bridging the gap between students and teachers. There is a huge variety of courses and prices, and, according to the website, there are courses not only for individuals, but also for workgroups or company employees. Like the previous company, Udemy defines itself as a content distribution and sales channel. And, just like its competitor, it is up to the teacher to be able to act on all the specificities that compete with the creation of a complete course.

The potential student, when entering the platform, faces a wide range of courses that are bestselling, in general, in the area of information technology, such as programming languages or databases. But, when looking for other areas, the individual has at his disposal courses as disparate as cryptocurrencies and watercolor painting, baking with natural fermentation and quantum mechanics. Each of these courses has a presentation, with a video prepared by the teacher, in addition to some phrases of encouragement and explanation and the reputation of the course, marked with stars ranging from zero to five. There is also the price of the course, the desired level of the student and its average duration.

Another company that claims to bring people together is Eduzz (www.eduzz.com.br). It promises to be a sales channel for products and services, in which one of the main types of service is online courses. In the company in question, it is interesting to note the focus on sales, that is, again treating education as a product, as just another can on a shelf.

Just like a precarious worker who takes meals across the big cities of Brazil and the world, the teacher, as we seek to argue here, is voluntarily or involuntarily entangled in a web of precariousness.

All the equipment used by the teacher, whether on the reinforcement classes platforms or on the free courses, is his sole responsibility and investment. It is the teacher who pays for the electricity used to run the classes. He also owns the computer, tablet or smartphone he uses to record his classes or live broadcasts. Classes that need to be recorded or transmitted through a camera, which is also part of the education professional's

investment. Likewise, the lights that illuminate, the scenery used, the chair and the worktable. All these inputs crossing, in general, the domesticity and the private environment of these teachers. It is understood, in this article, that the situation in which the worker is solely responsible for their means of work is one of precariousness. It is important to point out that, in the pandemic context, even teachers with a formal contract found themselves – with honorable exceptions – having to bear the expenses of electricity, electronics, internet, to guarantee the transmission of their classes.

But precariousness does not stop only in material matters. Although, not always trained and formed for this, the teacher to be reputed in this digital context needs – on account – to be able to behave well in front of a camera, in a spontaneous, attractive, playful way and, perhaps, perform the little dances that are on the social media agenda. In addition, he is responsible for scripting the class, which, as it is usually on video and has support materials, needs a decoupage of what will be presented to the student. The structure, both of the filming space and of the incidental elements that may appear in post-production, is another element that now falls to the teacher, as well as the issue of editing the videos, which is perhaps the most important process of every audiovisual product, as Benjamin (2010) already stated almost a hundred years ago.

In addition to all these technical issues from the point of view of communication, the platform teacher must also be able to attract students, to make profiles that attract students to choose among the myriad of courses or professors in the same area. More than that, he must be able to think financially, in terms

of cash flow, investments, financial returns, among dozens of other elements that are business hallmarks and which, in turn, are refractory to many subjects who have chosen the path of teaching, precisely to not get involved with these issues.

This is one of the crucial characteristics of precariousness: making an individual, who does not always feel suited to this, was not, and did not want to be trained for this, a "company". A "company", however, that overburdens the worker with burdens, while relieving the owners of communication platforms that, after all, only connect students and teachers. It can be argued that the teacher could hire other professionals or companies to carry out the tasks with which he is unable to perform well. But, again, the precariousness causes the individual's income to be so low that this becomes impossible (Slee, 2017).

The precariousness, however, goes further, when we understand the process from the Diffuse Factory key. In this case, in addition to having to be a company that works with only one employee, the teacher is also a company that works twenty-four hours a day, seven days a week and everywhere, in the city and even outside it. The invasion of time and space by teachers in a precarious situation is alarming. Mainly after the covid-19 pandemic, it is not uncommon for professors to report that they are called upon by students in the most diverse circumstances, including, at dawn, when they are sleeping. And being able to put an end to it is very difficult, in a situation in which the individual needs to work hard to get the minimum to live a dignified life (André, Da Silva and Nascimento, 2019).

Algorithms from platforms such as Superprof, for example, force educators to react to student messages within a few hours. Top-rated teachers respond in an hour or two at most. There are professors who respond within six hours, but those have lower ratings. Now, if there are 24 hours in a day and people need to respond within two hours, that means that all it takes is a prospective student living in Europe or Australia to invade the teacher's rest time.

In addition, as we can see, when evaluating the times available on the Plurall platform, most teachers are available for classes from 8 am to 10 pm, from Monday to Monday, with no time for weekly rest, that is, their working hours far exceeds what is humanly acceptable. This situation is reminiscent of the factory context and the proletariat of the first stages of the Industrial Revolution.

On the Profes platform, the situation is even more nebulous, since one of its main concepts is solving tasks for students. It does not seem very appropriate, didactically speaking, for a professional to solve questions and tasks for a student. If the basic idea of science is the construction of knowledge based on trial, error and then success (Vigotsky, 1998), how will this happen when a third party performs a task? More than that, the teacher in the Diffuse Factory, in addition to being precarious, is also made invisible, since the student does not even know who solved the question or the job for him.

The platform says, in all letters "We will send your task to our best teachers / A Profes teacher will take the task for resolution / If you liked it, rate the solution and the

amount will be debited" (Profes, 2023). The invisibilization of the teacher seems, after all, the paroxysm of precariousness. Copyrights are not even respected, without, of course, mentioning the ethical problem involved in the situation. When we move on to free course sales platforms, the presence of uberization becomes even stronger.

At the company Hotmart, at the time of registration, the teacher is evaluated by their social media. As we've already said, the more followers you have, the greater the chances of having a good deal, according to the company. In other words, it is also the teacher's responsibility to be a "digital influencer", that is, someone who can influence people through social media. In this company, a course is treated as a product, and the professor treated as an entrepreneur. That is, just commercial transactions, in which the company takes a fat slice. There does not seem to be a genuine interest in improving the living conditions of either the teacher or the student. The platform allows itself to charge a large slice of the financial result of the person who develops its courses. This charge even shows another trait that Slee (2017) associates with uberization, which is taking advantage of people's vulnerability to impose ever higher fees. Furthermore, the percentage or value of these commissions are never completely clear to the user/teacher.

According to the Hotmart (2023) website, there are some ways the platform charges: firstly, an intermediation fee, which varies according to the value of the product. In other words, beforehand, the proponent of a course does not know how much he will have to pay

the Dutch company. In another charge, there is the license fee, in which for each course sold the company keeps 9.9% of the cost of the course plus R$ 0.50. However, if the course or product costs less than R$10.00, the company takes 20% of the amount raised by the teacher. But it doesn't stop there: it almost requires that the courses be primarily on video. But, for that, the teacher has to pay R$ 2.49 per view, under the pretext of using the company's video player. With such exorbitant rates, precariousness is evident. Over time, more and more course proponents feel like they are proletarians in a big factory that exploits them.

What is no different at Udemy, its North American competitor. There is a testimonial on one of the course pages that says the following: "Enroll in the course through the link in my Instagram Bio: @xxxxx (data deleted for privacy reasons), this way I receive 90% of the cost of the course. When the purchase is made through a search directly on the Udemy website , I only receive 5% of the course fee." (Udemy, 2023c). The company, despite not denying this information provided by the teacher, since the text is within its pages, informs that, through a coupon provided by the teacher, gross earnings are 97%, while sales that are not made through the instructor earn only 37% of the gross revenue of the course (Udemy, 2023d). Applied to fees and other transactions, the amounts are very similar to those explained by the teacher on her page.

That is: the education professional needs to be responsible for the entire structure of the course to be sold, he needs to have all the equipment and costs originating from it, he needs to be able to create and edit the

videos and texts that will go to the students, in addition to needing encourage student enrollment and be your company's finance officer with just one person, among many other assignments. And, after having done all that, you will only receive a percentage of 37% of the gross value of your course, showing one of the main characteristics of precariousness, which is low remuneration or remuneration that exploits the worker's added value in a way acrimonious.

Eduzz, which has an even more complex and confusing payment system, involving at least three other sub-companies (Alumy, Nutror, Órbita), is not much different, as, according to its website, it charges 4.9% plus one real for each course and an additional 3.9% for each student who buys the product.

In addition to the financial issue, there is also the issue of the professional's lack of freedom. With the misleading propaganda that teachers can sell whatever they want, however they want, there is a set of very strict rules that reveal what Slee (2017) already stated when he said that companies in the supposed sharing economy impose rules more and more strictest of its "partners". The professor needs to respond to his students in a short space of hours, as the Diffuse Factory already advocated, forcing the worker to be available all the time and everywhere. In addition, they need to renew the videos or texts every period of time, causing more costs for the teacher. These videos, according to Udemy (2023b), also need to be at least 720p quality, containing at least 30 minutes, with good audio quality, at least one exclusive image of the course,

among other requirements. Eduzz even writes on its website: "You need to consistently create content. Reserve some time during the day to publish a new video" (2023b), showing how there is an uninterrupted demand on the producer of the material.

The precarious teacher, as seen in these few examples, is unfortunately increasingly subject to platforms and their algorithms, as well as to this exacerbated capitalism in which "collaborators" without any social security work all the time, everywhere in the world. diffuse factory, using its knowledge and tools to earn a fraction of the money raised with its effort.

It is also important to mention the issue of rankings, through attributions of concept to which, as much as on platforms like Uber, teachers are subject. It is the possibility for individuals, without proper instruction, to give grades to teachers, as has already been discussed.

Indeed, the implication of this type of ranking is to treat the teacher as a precarious professional, just like any other type of service. Thus, in the same way that an Uber driver ends up becoming submissive to the stars of his passengers (Slee, 2017), teachers also end up being afraid of the judgment of their students.

Finally, in addition to algorithmic ranking, another point that afflicts precarious workers is the notion of the need for entrepreneurship. Encouraged by the platforms, which wish to spend less and less in favor of financial gain, the worker is enticed to be the "manager of his own career", being led to the idea that there is a magic formula for the problem of

unemployment or lack of work or money. It is interesting to note that this formula helps companies in many ways that can make workers precarious, but it also helps the Government, which, in a way, encourages such practices so as not to have to spend on employees.

Again, focusing on education, the number of professors hired through the Simplified Selection Process (PSS), who do not have the security of a professor who has been admitted to public service and must be prepared to take on a myriad of disciplines that are often far from their area of expertise. In a performance correlated to the other workers who need to undertake in their functions.

In the Diffuse Factory (Bihr, 1998), the worker needs to be an entrepreneur in all time and space. And he needs to know how to deal with the algorithms that monitor him throughout his work (Zuboff, 2019). The "entrepreneurial teacher", then, needs to know and relate to student registration platforms, such as the Online Class Registration, in the state of Paraná, or the Digital School Secretariat, in the state of São Paulo. But this is not enough, because the same teacher, moved by the insecurity of precariousness and the propaganda of entrepreneurship, also needs to know how to deal with social media, such as Instagram, TikTok or WhatsApp (Santos, 2022). This, however, remains little, especially in the post-covid-19 pandemic, since the teacher is expected to be able to create videos for proprietary platforms or YouTube. And then, the teacher is faced with the need to learn to edit audio and video (Stadler e Santos, 2020).

Thus, it is clear that it is up to the platform teacher to be responsible for constantly adapting to the needs of their clients. Schools, no matter how hard they try, cannot cope with

such a demand for courses and also for their specificities. Teachers' continuing education always ends up being outdated in relation to algorithms that move and change at the speed of light.

With Diffuse Factory strategy, which extends throughout the city (Cant, 2021), public or private schools, with greater or lesser financial support, end up forcing the teacher to always update himself, always looking for new ways to make himself understood by the learners. However, less than in respect for the interests of personal growth, the teacher needs to adapt to new languages and technologies through the logic of functioning and extraction of surplus labor from an educational machine that is very similar to any factory, which aims merely at profit.

This profit decides which tools the teacher needs to know or which ones to improve. The teacher's continuous learning logic is not based on what is most necessary for his discipline, but on the capitalist need for companies that manipulate precarious algorithms and, not least, on the fear caused by the instability and insecurity of a professional life with little or no guarantee and labor rights (Standing, 2013).

Conclusion

In the world of the Anthropocene and platform industrial capitalism, as long as you have equipment and an internet connection, you can work anytime, anywhere. Residences, squares, galleries, parks, public and private spaces in general and the entire city, in a way, become a large workspace. The city becomes a big factory: the Diffuse Factory.

The greatest asset of any contemporary Diffuse Factory is its algorithms. With this strategy, workers are not even able to perceive the intentions of the company they work for, much less are they able to understand the algorithm to which they are subjected. In this system of unequal exchanges, the worker is seriously harmed.

Through the algorithms of the Diffuse Factory and an increasingly cruel capitalism, teachers suffer every day a growing process of precariousness of their profession. Although the social devaluation of the teaching profession in Brazil is a sad historical reality, what is happening today is a major discouragement for this profession, which is so necessary for the development of the country. If, in formal teaching environments, teachers are increasingly more framed as service providers of a deeply commodified system, the worse the situation of the teacher on the platforms. Amidst the discursive harassment, he finds himself exhausted and drowned in algorithms. There is a kind of common sense about the need to improve education in terms of breadth, quantity and quality of education. The increasingly aggressive commodification of education, making teachers' working and living conditions precarious, as seen in the case of platforms, not only does not solve the country's problems in this regard, but acts to deepen them.

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