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ChatGPT and the Commodification of Knowledge Work

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Abstract

This article explores the context of generative AI software like ChatGPT on academic labour from the perspective of critical political economy. Beginning with an account of the commodification of knowledge work and higher education under neoliberalism, it argues that the class position of faculty, librarians, and students has become muddied. In order to properly understand how ChatGPT can and will affect the academy, including academic libraries, we need to get clearer on the class position of knowledge workers (including students) and the role technology plays in the capitalist mode of production. Only then can we engage in labour activism and forge links of solidarity in full awareness of the class composition and technological structures of knowledge work.

Keywords capitalism; artificial intelligence; Marxism; libraries

ChatGPT et la marchandisation du travail lié au savoir

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Résumé

Cet article explore le contexte des logiciels d'IA générative comme ChatGPT sur le travail universitaire dans une perspective d'économie politique critique. En commençant par un compte-rendu de la marchandisation du travail lié au savoir et de l'enseignement supérieur sous le néolibéralisme, il soutient que la position de classe du personnel académique, des bibliothécaires et des étudiants est devenue confuse. Afin de bien comprendre comment ChatGPT peut et va affecter le milieu universitaire, y compris les bibliothèques universitaires, nous devons clarifier la position de classe des travailleurs du savoir (y compris des étudiants) et le rôle que joue la technologie dans le mode de production capitaliste. Ce n'est qu'alors que nous pourrons nous engager dans un militantisme syndical et forger des liens de solidarité en étant pleinement conscients de la composition de classe et des structures technologiques du travail lié au savoir.

Mots-clés capitalisme; intelligence artificielle; marxisme; bibliothèques

Introduction: The Political Economy of ChatGPT

In November 2022, OpenAI's ChatGPT bot appeared, almost out of nowhere, to revitalize debates over so-called "artificial intelligence." These debates ranged widely over fears of human obsolescence (Pogue, 2023) (especially in humanities and the arts) and even of human annihilation (the "AI safety" and "AI alignment" problems) (Yudkowski, 2023), and provoked a particularly panicked response in higher education (Huang, 2023). With its apparent ability to provide correct and sophisticated answers to natural language questions, to mimic any writer's style, and to produce text tailored to fit any purpose, ChatGPT raised concerns within the academy initially in the areas of academic integrity and academic writing (Susnjak, 2022; Rudolph, Tan & Tan, 2023).[1] In many Canadian universities, the primary response to the advent of ChatGPT fell under the umbrella of academic misconduct, with a focus on how to spot AI-generated text (and punish the offenders) or seeking ways to properly integrate the new technology into the classroom to avoid misconduct (Barnett, 2023; Bettens, 2023).

The dominant perspective on ChatGPT was as a kind of novel disruptor, a radically *new* technology that appeared, almost *sui generis*, to throw human cultural production, education, and labour into disarray (Pompeo, 2023). The purported novelty of ChatGPT and other generative AI tools like Stable Diffusion and Midjourney made it difficult to link these new technologies with longstanding trends of technology-use in the capitalist mode of production. While much was written about the political and economic potential – both good and bad – of generative AI, the *critical* political economy of ChatGPT (i.e. its role in a fundamentally antagonistic and exploitative mode of production) in higher education has seen much less attention. The purported novelty of generative AI tools allowed both the risk and the promise of the technology to be blown out of proportion, making it that much harder to understand that the role ChatGPT plays in today's society is no different from the role other technologies have played in earlier periods of capitalist development.

This insight is important because far from automatically and inexorably disrupting labour activism and solidarity by wiping out whole sectors of work – which is a real and present fear particularly among programmers, writers, and

[1] Such concerns are not new but are attendant on the advent of many new technologies. For example, in Plato's Phaedrus, Socrates recounts the story of the presentation of the "technical invention" of writing to the king of Thebes. Writing was championed for its purported ability to make people wiser and improve their memories, but Thammus, the king of Thebes, countered by arguing that writing "will produce forgetfulness in the souls of those who have learned it, through lack of practice at using their memory, as through reliance on writing they are reminded from outside by alien marks, not from within, themselves by themselves" (Plato, 2005, p. 62).

artists (Vallance, 2022; Vallance, 2023) – the deployment of ChatGPT and other AI tools could instead provide a centre of gravity for renewed and expanded academic labour struggle. Indeed, the joint SAG-AFTRA/WGA strikes in the U.S., the first such joint labour action since 1960, was in large part prompted over the uses to which the Hollywood studios planned to put AI applications (e.g. AI-generated screenplays, digitizing and "deep faking" actors' likenesses for unremunerated use in films in perpetuity, etc.) (Dalton, 2023). In this article, I will explore knowledge work and technology from the perspective of Marxist political economy, labour, and higher education, before offering a few thoughts on the solidarity/activism potential opened up by these new technologies.

I will begin by exploring the broader context of the commodification of higher education since the advent of neoliberalism. I will then turn to the place of technology in knowledge work, including its effects on the social class of academic workers and the question of labour solidarity. I will argue that the changing dynamics of class and class struggle under neoliberalism have created a situation in which technology in academia is used for its competitive advantage, and that generative AI platforms like ChatGPT are simply the latest development in this dynamic.

The Commodification of Education

The neoliberal turn began in the 1970s and is generally agreed to have achieved predominance in the Western world with the electoral victories of Margaret Thatcher in 1979 and Ronald Reagan in 1980. From a Marxist perspective, neoliberalism was a restructuring of capitalism in the face of economic crisis that aimed at abolishing all the things that capital saw as reducing profitability (for example, the social safety net of the post-war welfare state) (Harvey 2005). These included national health and unemployment insurance, "big government" (including nationalized industries), strong trade unions, and interventionist fiscal, monetary, and economic policies. In their place, neoliberalism sought to implement a minimal state, cuts to social service spending, massive attacks on trade unions (for example, in Reagan's breaking of the air traffic controllers' union in 1981 and Thatcher's attack on British miners in 1984-1985), and laissez-faire market policies. Ideologically, there were two main planks to the neoliberal project: 1) a culture of pure individualism, opposed to solidarity and collective action (framed as "individual responsibility" and

entrepreneurialism) and 2) a view of the corporation as the model for all forms of social organization.[2]

Two effects of this ideology were, on the one hand, the shift in people's perceived position in society, from workers or students or managers to entrepreneurs and, on the other hand, the extension of corporate, even factory, logic into areas which had previously been understood to be *different* from corporations or factories. Writing of the corporatization of academia, Nick Foskett notes that it is as if "competition and market forces have arrived... into a world where they had no presence before" (Foskett, 2011, p. 26). Alongside other sectors of society that had previously been relatively untouched by capitalist restructuring, the "marketisation of higher education" coincided with the beginning of the neoliberal period (Molesworth, Scullion, and Nixon, 2011), and by 2005, Nick Dyer-Witheford could write that

> the advent of 'Academia, Inc.', *aka* 'Corporate U', is no longer an ominous prospect but an accomplished fact. Over the past twenty-five years, the universities of advanced capitalism have been metamorphosed, the shell of the ivory tower broken, and higher education firmly entrained to market-driven economic growth — in particular, to the development of high-technology industries. (Dyer-Witheford, 2005, p. 71)

At the same time that students and faculty were being reconceived by university administrators as workers in a "teaching factory" (Marx, 1976, p. 644) or "accumulation machine" (Bousquets & Terranova, 2004, para. 36) according to the logic of market-driven economic growth, they began to see *themselves* more and more as entrepreneurs rather than workers. Connected to this was the way in which university administrators began to treat students (and students began to treat themselves) as *consumers* (Neary and Winn, 2009; Molesworth, Scullion, and Nixon, 2011; Naidoo and Whitty, 2014), which had an effect not only on students but on all academic workers.[3] However, university administrators were themselves caught in a contradiction: treating students and faculty more and more as unruly workers, while rhetorically positioning them in neoliberal terms as self-directing entrepreneurs and consumers (Dyer-Witheford, 2005, p. 90; Neary & Hagyard, 2009).

[2] This paragraph is abstracted from the empirical details of the neoliberalizing process. For detailed discussions of the economic, political, and social effects of the neoliberal turn, see Harvey, 2005 and Chamayou, 2021.

[3] I include students in discussions of academic or knowledge work precisely because it is important to recognize not only that faculty and librarians are already proletarianized (Popowich, in press) but that students too are "already workers, not just future workers" (Bousquets & Terranova, 2004, para. 54).

Throughout the 1970s and 1980s, this process developed gradually, and it was only in the 1990s that higher education fully became a "knowledge-based service industry" (Foskett 2011, p. 25). Teixera et al. (2004) use the word "enterprise" to describe the marketized academy, not only because "governments, students and private business [have] invested increasing amounts of public and private resources in the sector," but because we "can observe a more 'business-like' approach in the way higher education is managed" (Teixera, Jongbloed, Amaral, & Dill, 2004, p. 1).

In the 1990s, the neoliberal turn "invaded" (Dyer-Witheford, 2005, p. 90) post-secondary institutions, and higher education itself was reframed as self-investment on the part of students (with faculty and librarians as "service providers"); the ultimate return on which was a better paying job and a bourgeois lifestyle. Upward class mobility — understood not in terms of class-belonging but of individual success — was the reward for fiscal responsibility and the efficient deployment of resources and energy in an ecosystem of educational transactions that had been transformed into economic ones. Students became at once customers who invested in themselves not for education *now* but for higher returns in the future, as well as the sovereign consumers of educational content (Peters, 2001; Dahlstedt & Hertzberg, 2013) while faculty and librarians were "coerced into academic capitalism" (Sauntson & Morrish, 2009, p. 74) through structures of incentives and discipline, the need to "publish or perish," competition over grant-funding, and perhaps most perniciously, the increased predominance of precarious contract positions over full-time continuing appointments (what Marc Bousquets calls "perma-temping" (Bousquets & Terranova, 2004, para. 12). Indeed, Bousquets has discussed the way faculty members can be both employees of the corporatized universities and at the same time "managers" of contract instructors, leading to a situation of "tenured bosses and disposable teachers" (Bousquets &Terranova, 2004, para. 35). Needless to say, these forms of coercion are also structured and differentiated along the lines of race, gender, disability, and other structures of oppression.

In the neoliberal view, over the course of their degrees, students pay for courses and are therefore deserving — like all customers — of excellent customer service and value for money (i.e. their "return on investment"). They became the final arbiters of whether that value had been received ("the customer is always right"), which had a direct effect on the disciplining of academic work. Student evaluations of teaching began to be used across North America in the 1970s and were seen by university administrators as both customer satisfaction surveys and ways to incentivize or discipline underperforming academic workers (i.e. faculty). Even by the late 1980s, however, Student Ratings of Instruction (SRIs) were recognized as

flawed tools, allowing the harassment of instructors and having material consequences for faculty members' career advancement (not to mention mental health) (Kierstead, D'Agostino, & Dill, 1988). SRIs continue to be used, however, not only in ostensibly ensuring pedagogical quality and consistency, but as a tool of labour discipline against proletarianized faculty — in particular faculty with marginalized identities (Berheide, et al., 2022, p. 443; Stoesz et. al., 2023). The commodification of education, a consequence of its corporatization and consumerization, thus went along with a breakdown of collegiality, culminating in a tripartite structure based on the corporate model: university administration as employer, faculty and instructors as employees, students as consumers. This was a radical departure from the way universities had been structured and run prior to the neoliberal turn.

One complicating factor in this transformation of the political ontology of higher education is that the ideology, self-representation, and worldview of all three constituencies lagged behind the material transformation. Administrators were perhaps the quickest to embrace the corporate logics and ideologies of exchange and exploitation, but students were not far behind, quickly becoming used to exercising their new "consumer power" in the educational marketplace. The professoriate and academic librarians, however, even today often cling to the older outlook of collegial governance and disinterested scholarly activity, teaching, and learning, while ignoring their changed labour conditions and class positionality (Popowich, in press). This can sometimes lead to overly trusting, not to say naive, expectations around labour relations in universities.

One important outcome of this process is that corporatized universities stopped focusing on education as social relationships between professors, librarians, and students, and on learning as an immaterial, immanent, or internal process that occurs *within* students and is fostered and enabled by faculty and librarians. Instead, they began to focus on the tangible, material outputs produced by academic work, transformed from creative, scholarly artefacts into commodities. Sauntson and Morrish (2009) write that in the marketized university, learning became less about "creating or developing knowledge" and more about the way "knowledge is treated as a 'product' which the university owns as a commodity, and which can therefore be 'sold'" (Sauntson & Morrish, 2009, p. 79). In other words, corporatization led to commodification, and the production of academic commodities (exams, essays, etc.) as mystified and inadequate proxies for actual learning.

Technology, Knowledge-work, Proletarianization, and Solidarity

Once the corporatization of universities was under way, they became deeply influenced by the intertwined capitalist logics of labour and technology. In Marxist theory,[4] labour and technology are inextricable: technology is the stored-up capacity to perform work, potential labour-power ready to be redeployed at a later time and in different conditions.[5] A 3400-horsepower steam engine, for example, can be understood as "containing" an amount of potential labour-power which can be moved around and activated as needed. As the horsepower measurement shows, industrial machinery also has a kind of "multiplier" effect that allows a given machine to replace not simply the labour power of a single person, but of multiple human workers. Hargreaves' original spinning jenny, for instance, allowed a single human worker to replace seven other spinners, since eight spools could be turned at once (Casson & Rössner, 2022, p. 16). Both the storing of potential labour-power and the multiplier effect make technology a useful tool for the replacement of human labour by machine, which — for Marx — is one of the key drivers of capitalist innovation. Since workers are the costliest part of the capitalist process of production,[6] technology's role in critical political economy is to replace it with machines and thereby to reduce commodity costs. Capital's relationship with labour is bound up with the use and abuse of technology. Whatever the role of technology in higher education was prior to the neoliberal turn, once the corporate logics of profit, loss, and value-for-money became entrenched within universities, educational technology too became subject to the pressures of exchange, labour-power, and the production of exchange-value over use-value (Dyer-Witheford, 2005). In other words, technology in higher education began to play the role Marx assigns it in the capitalist economic system at large.

What labour-power and technology have in common is that they can both produce commodities. In Marx's economic theory — drawn from earlier economists like David Ricardo — commodities are objects produced for use *and exchange*, and the value of the objects in their use is different from the value they have when exchanged (Marx, 1976, pp. 126-128). The use-value of a commodity — the value a sandwich has to assuage hunger, or a train to transport people or goods — depends on the *kind* of labour that goes into its production. Different kinds of

[4] This and the following three paragraphs are a very high-level account of Marx's argument in *Capital*, Volume 1 (Marx, 1976).

[5] Indeed, this is actually how AI models work, by being trained on previously existing human-generated texts or images. The corpus on which a generative model is trained is quite literally made up of "congealed quantities of human labour" (Marx, 1976, p. 141).

[6] Not only in terms of wages, but in terms of risk (of labour action, sickness, accident or inefficiency) and social costs (welfare regulations, medical care, etc.).

labour produce different kinds of commodities: you can't make a train by slicing bread and meat and assembling them in layers. But the exchange-value of objects depends not on how we use them, on the abstract and generalizable act of production; only the quantity of labour (measured in average labour-time) that produces a commodity, and not the kind of labour, determines the exchange-value of the commodity. Once universities had switched — even partly — from learning as use-value to education as an exchange-value, they became subject to all the imperatives and constraints of commodity production, including the equations of exchange-value.

The commodity, for Marx, is something quite mysterious. It not only obscures and hides the material conditions of its own production (when you look at pair of sneakers, you can't see the sweatshop that produced them), but also all of the determinants of value that go into it. For the buyer of a coat, how the coat was made, the division of costs between raw materials and labour, all of which add up to the coat's exchange-value, become invisible and immaterial. The consumer is faced with the end-result alone — the process of production, as Marx said, takes place in a "hidden abode" (Marx, 1976, p. 279) — and this end-result is made up of the physical commodity (which can satisfy a need through use) and the price (the amount of money for which it can be exchanged) (Marx, 1976, p. 138). Under the logic of neoliberalism, use-value fades from view until only exchange-value matters; and this is indeed what happened in universities over the course of the 1980s and 1990s (for a general account of this process, see Lawrence & Sharma, 2002, p. 673-674).

If the end-result — the commodity — is all that matters under the imposed factory logic of the capitalist university, then it stands to reason that this will also be the case for academic and scholarly work today. The products of academic labour are not special from the perspective of political economy, exempt from all the other social relationships that gravitate around the production, distribution, and consumption of commodities in general. As *use-values*, the products of academic labour remain distinct, and the kind of labour that goes into their production is specifically academic or scholarly labour. But as exchange-value, the distinctness of scholarly labour and use is abstracted away, as it is with all other commodities.

Perhaps the clearest example of the "only the end-result matters" approach is the Scantron testing technology, developed in 1972 (that is, right at the beginning of the neoliberal transformation) and widely adopted by schools and universities immediately thereafter (Cortez, 2016). With Scantron, there is no capacity to "show your work," no way to explain your reasoning; testing is reduced to the binary logic of computerization: shaded or unshaded, yes or no, true or false, one or zero.

Obviously, students were graded prior to the development of Scantron, but such grading was still primarily qualitative, interpretative, and flexible. The teacher could meet the student halfway. Scantron does not describe some new pedagogical *activity* (grading/evaluation), but the automation (and therefore the prior reduction to automatability) of that activity: it is the subsumption of a previous independent aspect of pedagogical labour under the logic of technological capitalism.

Indeed, the pedagogical effects of this kind of automation are recognized in the literature. In their guide to "reading, thinking, and writing about history," Monte-Sano, De La Paz, and Felton (2014) argue that the advent of Scantron goes hand in hand with the decline of learning as use-value:

> If students are to develop the literacy practices they need, social studies educators must embrace inquiry and interpretation. Students will not learn to consider multiple perspectives, critique what they read, or develop an argument if history lessons focus solely on memorizing names and dates or filling in bubbles on a Scantron sheet. (p. 7)

One benefit of Monte-Sano, De La Paz, and Felton's account is that it does not artificially divide the work of students and the work of teachers: we are all academic workers, subject to the same class imperatives.

While longer-form scholarly work like essays and presentations have more scope for process and explanation, allowing academic workers to "embrace inquiry and interpretation" (Monte-Sano, De La Paz, & Felton, 2014, p. 7), they too have ended up being mainly output-oriented, and the advent of generative AI simply extends this process. Rather than being expressions of learning, understanding, and knowledge, the essay or presentation became the graded interface between student and teacher. All of the student's work boils down to an output which they exchange for a grade. Education, on this model, becomes "a business transaction, an exchange of money for a guaranteed leg-up in the post-graduation 'real world'" (Wignall, 2006, para. 2) mediated by commodity production and exchange. This process has not been uniformly followed in all times and places and has been subject to very real resistance on occasion by both teachers and students. But the overwhelming tendency is to adopt this teleological approach to pedagogy, driven by the commodity logic to which all members of the university are increasingly subject, and which is structurally immune to individual acts of resistance.

The commodification of academic work — focusing solely on the commodity presented in exchange by the student to the teacher — inevitably involves the downward pressure on production costs to which all commodities are subject. Commodity logic can be understood in many ways as the logic of reducing costs in

order to increase surplus-value, the proportion of exchange-value to be pocketed as profit. Plagiarism, cheating on exams, and other forms of academic misconduct must, in this view, be understood not as moral failings, but as the natural result of the students' imperative to reduce costs and maximize the exchange value of the commodities they produce. Indeed, in corporate universities, when students cheat, they are simply following the precepts of one of the architects of neoliberalism, Milton Friedman, who wrote in 1962 that in a "free economy" (i.e. neoliberal capitalism), "there is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits" (Friedman, 1962, p. 133).

The corporatization of universities has meant, on the one hand, that universities began to act like businesses, and that faculty, librarians, and students began to see themselves more like entrepreneurs and sovereign consumers. In such a context, the neoliberal logic into which all academic workers are placed leads them to be — in Marxist terms — alienated from the products of their own cognitive labour (Dyer-Witheford, 2010, p. 489). They come to see their own labour as something to be exploited, and their own academic work as commodities to be exchanged. Both therefore become subject to the capitalist pressure to reduce costs to increase profit. In such a context, the pressure of value and the responsibility to conform to Friedman's neoliberal view is enormous, carrying as it does the weight of accepted capitalist common sense. Accordingly, various ideologies arise in order to reconcile knowledge workers to the contradictions of this situation and to smooth its functioning.

This process clearly deforms the relationships between students and faculty. Faculty are increasingly forced to see students as unruly workers to be kept in line rather than junior colleagues in scholarly endeavour. This changed relationship is clearly expressed in the way the Foucauldian panopticized invigilation of exams reinforces the surveillance, discipline, and punishment elements central to the lives of all workers. Foucault himself noted the centrality of surveillance to pedagogy as an adjunct to "teaching proper" and the "acquisition of knowledge": "a relation of surveillance, defined and regulated, is inscribed at the heart of the practice of pedagogy, not as an additional or adjacent part, but as a mechanism that is inherent to it and which increases its efficiency" (Foucault, 1995, p. 176). In other words, we can understand exam invigilation platforms as the automation of pedagogical surveillance in the name of efficiency, i.e. lowering labour costs under the pressure of commodity logic.

Under the new corporatized regime, exam surveillance corrupts faculty by forcing them to act like management (Dyer-Witheford, 2005, p. 78)[7] and gives students a taste of the dark side of life under capitalism, even as the commodification of education tempts them into dreams of the good life. Faculty and students are at once interpellated as the privileged beneficiaries of neoliberal entrepreneurialism/consumer sovereignty *and* as oppressed workers confronted by alienated and alienating structures — what the singer-songwriter Mitski memorably called "working for the knife" (Mitski, 2022). Students are led to believe they will be capitalism's winners, but since most of them will not achieve that, the way is prepared for their working lives by how they are treated at university. The recent technological disruption of exam invigilation by, for example, Proctorio, is not qualitatively different from the draconian treatment of students before the surveillance platform was invented (described, for example, by Foucault[8]) but has developed in line with capitalist technology. What connects the deployment of tools like Proctorio with the introduction of generative AI in higher education is the logic of capitalist automation, whether it's automating the labour of producing academic texts or the surveilling and disciplining of academic workers; in other words, the replacement of unruly, undisciplined, costly human labour by machine.

Once academic workers have been placed in the position of entrepreneurial producers of academic commodities, they become subject to the competitive pressure to increase productivity ("publish or perish"). Productivity, in the Marxist sense, is measured by the amount of commodity-value produced in a given amount of time. The application of technology increases productivity and lowers costs: the application of technology to increase exchange-value is thus an integral element in commodity production. It should be no surprise, then, if knowledge workers seek to apply technology to their own commodities. Academics are in competition with each other (at school and, later, in the labour market) and any advantage they can gain is justified by the ideology of neoliberal capitalism (Foskett, 2011, p. 29). To take fears of student misconduct through AI-generated papers as an example, students are simply doing what society expects when they, like every good businessperson, turn to any new technology that promises the reduction of labour costs in order to increase the exchange value of their commodity.

[7] Marc Bousquets has described similar processes as ones in which "tenured faculty schizophrenically experience themselves as both labour and management" (Bousquets & Terranova, 2004, para. 11).

[8] "A relation of surveillance, defined and regulated, is inscribed at the heart of the practice of teaching, not as an additional or adjacent part, but as a mechanism that is inherent to it and which increases its efficiency" (Foucault, 1995, p. 176).

The Competitive Advantage of ChatGPT and Generative AI

Looked at in this way, the invention of, say, Wikipedia, was not the epistemological or pedagogical threat that some academics worried it would be (Maehre, 2009, pp. 229-230). Rather, like abstract and indexing databases, it simply cuts down on the labour time/cost associated with looking things up in a print resource (journal index or encyclopedia), as well as the costs associated with producing a print resource, since Wikipedia relies on a vast army of unpaid workers. Wikipedia increases productivity by having an encyclopedia always at your fingertips. As with all technological innovation, the initial boost in productivity was lost once Wikipedia became widely used, since those who used it no longer had a competitive advantage. The economics of technological competition keeps driving innovation forward because any relative productivity gain is only ever temporary as new technologies become ubiquitous.

One major consequence of this view of technological innovation is that the least-productive but highest-cost areas of work — the most inefficient sectors which yet command high wages — are the ones where profit gains the most boost from an increase in productivity. Capitalism's reliance on human labour — a reliance it is constantly hoping to free itself from — means that technological disruption comes to the most inefficient but most costly sectors at the moment a technological innovation is introduced. This is why the new generative AI technologies are, in developed countries, now focusing on replacing artists, musicians, writers, and other knowledge workers rather than, say, cleaners. At this point in time, there is more profit to be extracted by replacing overpaid (from capital's perspective) artists and academics than underpaid (from anyone's perspective) manual labourers.

Enter ChatGPT. From the perspective of critical political economy, the popular discourse around artificial intelligence misses the point. What is at stake here is not human thought, creativity, experience, process or engagement with the world. What is at stake is rather the commodified outputs of that experience. If we think of the Large Language Models (LLMs) that underpin tools like ChatGPT not as artificial intelligence, expert systems, conversational agents or anything like that — if we reject the anthropomorphization that is a major element in the marketing of such technologies — then we can see the LLMs for what they are: probabilistic text generators. They don't write essays, they don't answer questions, they don't hold conversations, argue, give opinions or reasons, understand (or misunderstand), think or talk. They have nothing to do with *actual* knowledge, teaching, learning, etc. Literally all they do is emit text one token at a time, tokens which (to the model) are nothing but meaningless patterns of bits. Emily Bender, Timnit Gebru, and their co-authors, have called LLMs "stochastic parrots" because they simply

unintelligently repeat text patterns according to a probabilistic prediction model (Bender et al., 2021, p. 619). But in the commodified academy, where such outputs are the only things that "count," probabilistically generated texts fulfil the requirements of commodity exchange.

Conclusion: Solidarity and Labour Activism

Once we stop seeing tools like ChatGPT as ways of finding answers or summarizing texts or translating complex information into plain language or anything of the sort, we can see it for what it is: a tool for generating text. Only if we ignore the hidden, obscured human processes that we participate in when we write (or perform or paint or teach), only as long as we focus solely on the output, can we mistake LLM-generated text for the human process of creative production. In the neoliberal academy, where we have become accustomed to outputs standing as a proxy for student learning, understanding, and knowledge, it is tempting for us to think that LLM-generated text is a threat to learning. It is, in fact, no more a threat to learning than neoliberal examination and evaluation methods already were.

From the perspective of labour, we would do well to bear in mind the pronouncement made by one of the characters in Robertson Davies' satire of academia *The Rebel Angels*: "You can't persuade the public that education and making a living aren't the same thing" (Davies, 1983, p. 102). This argument leads to the idea that the best approach must be to "fire the unprofitable professors," and this is indeed one of the goals of bringing generative AI into the academy (p. 103). The cheapening and downsizing of inefficient and expensive labour — faculty and librarians just as much as artists and writers — is the fundamental purpose of disruptive technologies in education today because that is what technology is always *for* under capitalism. Not full replacement, necessarily, but undermining and undercutting, demoralizing, and eroding collegiality, solidarity, and collective action. The only way to resist this process is to step outside the game, to give up on our outdated academic privilege, recognize our proletarian class position, and forge links of solidarity with other workers. As Dyer-Witheford notes, "only if campus labour emphasises the commonality between contingent and tenured workers do universities face a radical and powerful union challenge" (Dyer-Witheford, 2005, p. 78-79).

While labour activism in Canada is tightly constrained by labour law, such links could take the form of cross-union or even cross-sector solidarity movements (information, knowledge, and strategy sharing, joining picket lines, etc.) at moments of particular tactical importance, such as when collective bargaining or strikes are taking place. But more important are longer-term, sustained solidarity

movements which allow for various unions to plan and act collectively. Cross-union and cross-organizational associations could stand as an example if they focus on issues of labour. For example, the Manitoba Library Association (MLA) combines librarians and staff from public, special, and academic libraries, and while the focus is not primarily on labour issues, MLA does take labour-related positions with respect to library policy. A shift in the direction of such associations towards direct labour activism and engagement would be of benefit here. Similarly, cross union journals like the *CAUT Journal* and *AAUP Academe* can become greater sources of labour solidarity and activism the more the working-class nature of academics is recognized. Platforms and portals such as Public Services International's Digital Bargaining Hub can provide for cross-union strategic and tactical planning. However, while cross-institutional solidarity is helpful, the most important work can be done bridging union divides within organizations. When the proletarianization of faculty and academic librarians goes unrecognized, the divisions between academic and non-academic workers and their unions can become entrenched, further co-opting academics into solidarity with the bourgeoisie rather than with other workers. University administrations leverage the two-tier labour hierarchy in order to divide and conquer. Overcoming the cultural divide implicit in this hierarchy (while recognizing the legal content of such a division) is perhaps the most important form of labour activism academics can take.

This would only be a starting point, however. The goal (at least under the constraints of capitalist Canadian labour law) would be to weld all academic workers into a union capable of exercising a real collective response to the neoliberal university as such. Such a collective response would not only serve the labour needs of faculty and librarians. It would also serve the pedagogical needs of a decommodified university. If we want to restore learning, knowledge, and understanding to higher education, we have to begin by dismantling the corporate university as such. As a result, the pedagogical goals of decommodification of higher education dovetail with the imperatives of labour solidarity and activism. Dismantling commodified education through collective labour action would be a victory both on the labour front and the education front, though we must also keep an eye on the broader social struggle.

But, as Marc Bousquets argues, academic labour must not try to occupy a *privileged* place within broader labour struggles. "To give academic labour a vanguard position would be a disaster," he writes, "academic labour, including organized academic labour, needs to submit itself to the tutelage of more radical forms of labour self-organization" than mere trade-unionism (Bousquets & Terranova, 2004, para. 54). While, in Canada, we tend to think of labour struggle

primarily in the context of unions, collective bargaining, and legal constraints on legal strikes, there are a number of non-union-based ways of organizing and making changes within a given institution. Autonomist Marxists, for example, tend to take a broad view of labour and economic activism in the context of the social reproduction of capital, deploying tactics like the collective "auto-reduction" of prices (Smith, 2010, p. 119-120). The key to such tactics is that they are not union-based, and so they allow the intermingling of workers from different sectors to come together in collective action, thus hopefully enabling the kind of radical tutelage Bousquets recommends. What this would look like specifically for academic workers remains to be seen, but what seems certain is that it will require the adoption of a "politics of incivility" mainly foreign to Canadian organized labour, and which may be the only path to a recovery of the "assertion of use values through direct appropriation" (Smith, 2010, p. 125) opposed to the exchange-value logic of commodities.

Something similar can be seen in Jane McAlevey's insistence that there should be no hard distinction between "labour" and "social movements" and that holding to such a distinction has caused severe damage to the American labour movement (McAlevey, 2016, p. 2). For McAlevey, in order to "rebuild a base powerful enough to seriously push back against the economic and political crises strangling most workers today, unions will have to practice the best organizing methods both inside *and* outside the workplace, simultaneously, in a seamless, unified approach" (McAlevey, 2016, p. 29). Furthermore, McAlevey reminds us that while it is vital to understand that academic workers — including faculty, instructors, contract staff, and students — are workers, they are not *only* workers: "a one-dimensional view of workers as workers rather than as whole people limits good organizing and constrains good worker organizations from more effectively building real power in and among the workers' communities" (McAlevey, 2016, p. 59), that is *outside* the workplace and outside the union.

It is precisely the one-dimensionality of proletarianized faculty, librarians, and students within our universities that allows for the easy automation of knowledge work by generative AI technologies. If nothing matters but the commodified output of knowledge work, and if workers' roles within the academy are reduced to their roles in the production and exchange of these outputs, then anything else they value, hold dear, or find meaningful is surplus to requirements and must be pruned from the production and exchange process in the name of capitalist efficiency.

To sum up, then, the advent of generative AI in higher education could be cause for fear and alarm or for hyped-up prognostications about our easy but super-productive futures (in the guise, for example, of "fully automated luxury

communism" [Bastani, 2019, p. 12], which sees the accelerated adoption of capitalist technologies as the way to achieve a post-capitalist society), depending on how far one believes the narrative of artificial intelligence itself. By grounding our understanding and evaluation of LLMs and other tools in a critical materialist political economy such as Marxism, we can avoid being either too unnerved or too complacent. The promise and peril of these new technologies is no more and no less than that of any other technological innovation under capitalism. The issue, as always, is not the technologies themselves but the functional requirements of technology for a culture and economy based on commodities, exchange value, and the exploitation of labour.

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