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Abstract

ChatGPT and artificial intelligence more generally are transformative technologies capable of liberating humanity from the necessity of burdensome toil. Recent discussions have neglected this possibility because they suffer from the sorts of cognitive distortions catalogued by Marx and the Marxist tradition. Technology fetishism, understood on the model of commodity fetishism, occurs when the use and development allowed by a certain mode of production appear as intrinsic features of the technology itself. Naturalistic mystification occurs when the socially contingent use and development of these technologies is made to appear natural and therefore inevitable. To those suffering from either distortion, it will appear that opposition to unfettered profit-seeking, along with the exploitation of workers and despoilation of nature that follows in its train, requires opposition to AI across the board. But there is nothing in the nature of AI that makes it better suited to the production of private profits than social goods. To think otherwise is to confuse the (natural) forces of production with the (social) relations of production, and distinguishing nature from convention is, as G. A. Cohen rightly observes, the foundation of all social criticism. I, therefore, suggest that criticisms of ChatGPT and AI should be focused on their real target: the capitalist mode of production that limits their use and development to socially malign ends.

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The Sophists' distinction between nature and convention is the foundation of all social criticism....

- G. A. Cohen¹

1. Introduction

A notable feature of much of the public discussion concerning ChatGPT and artificial intelligence more generally is the contrast between the millenarian rhetoric used to describe the world-historical significance of recent developments—comparisons to the Industrial Revolution are not uncommon—and the decidedly mundane examples we are given of the ways in which we can expect our lives to change. Consider, by way of humorous illustration, the comments made by conservative commentator David Brooks on a recent episode of PBS's *NewsHour*. After the obligatory comparison to the Industrial Revolution and remarks about the “pervasive effects on our workplace, our society, and our culture,” Brooks turned his attention to the “great opportunities” that lay in store for humanity. His voice caught in his throat, and his eyes seemed to moisten a bit as he contemplated the brave new world he could as yet only dimly make out on the horizon. Artificial intelligence holds out the promise, he said at last, “to make us all better at our jobs.”²

This contrast between rhetoric and (imagined) reality can be resolved in at least two ways. Perhaps artificial intelligence is over-hyped. Perhaps Brooks's conjecture—if not his sentiment—is appropriate. Perhaps artificial intelligence will

bring about the sorts of changes brought about by such recent technologies as the typewriter, the calculator, or even the personal computer. Perhaps it will do no more than make us better at our jobs. There are, however, reasons to believe that it is the rhetoric that is right and that changes to the workplace, society, and culture will be on the scale of the Industrial Revolution—indeed, a greatly accelerated Industrial Revolution, with epochal changes measured in decades rather than centuries. If so, our lives will change in much more dramatic ways than Brooks and his fellow commentators allow. The Industrial Revolution brought with it the global spread of capitalism, European imperialism, world wars, a population explosion, and a vastly improved standard of living for the fortunate among us. It did not simply make us better at our jobs.

My concern in what follows, however, is not to make the case for the revolutionary potential of artificial intelligence. My focus will be on the way of thinking that conceives of this revolutionary potential in so unrevolutionary a way. This, I believe, is a symptom of the sorts of cognitive distortions that are endemic to societies in which the capitalist mode of production predominates. In such societies, there is a tendency to elide the distinction between the forces and the relations of

¹ G. A. Cohen, *Karl Marx's Theory of History: A Defense* (Princeton, Princeton University Press, 2000), 107.

² David Brooks, ‘Brooks and Capehart,’ Interview by Geoff Bennett, *NewsHour*, PBS, May 5, 2023. Audio, 8.50.

<https://www.pbs.org/newshour/show/brooks-and-capehart-on-the-controversies-involving-supreme-court-justice-clarence-thomas>. I'm taking some artistic liberties at Brooks' expense—but not many. Readers can judge for themselves.

production—between technology, broadly construed, and the social relations determining the manner in which such technologies can be developed and deployed. One such distortion, technology fetishism, renders these social relations invisible, making it appear as though the allowable use and development of technology is determined intrinsically by the technology itself. Another naturalistic mystification allows for the existence of these social determinants of technological development but makes them appear natural and therefore inevitable. But as Cohen, Marx, and the Marxist tradition more generally have long observed, it is only the forces of production that are natural; the relations of production are merely a matter of convention. The societal impact of technology is a function of both variables. Technology fetishism and naturalistic mystification ignore the second variable or treat it as a constant. The result is that what appears to us as what is technologically possible is in reality only what is technologically possible within a certain historically contingent set of social relations.

I'll begin making this case in the following section by introducing Marx's distinction between the forces and relations of production, focusing on why the former are objective and natural and the latter are not. I'll then, in section three, give an account of technology fetishism, borrowing in places from David Harvey but hewing a bit more closely to the model provided by Marx's discussion of commodity fetishism. In section four, I'll give an account of the related phenomenon of naturalistic mystification, relying on a framework provided by Charles Mills. I'll conclude, in section five, by briefly discussing a possibility that

may lie in the superset of what is technologically possible but not in the subset of what is technologically possible within a capitalist society.

Marx is undoubtedly a product of the 19th century, and we shall find below that there are some aspects of his thought that we must leave buried with him at Highgate Cemetery. But there are few if any thinkers before or since who have thought as deeply or as clearly about the processes whereby technology transforms society. Marx developed his views at a time when the furious pace of technological development was altering fundamental social relations and all of the "venerable prejudices and opinions" attached to them; it was a period of "everlasting uncertainty and agitation."³ It is little wonder, then, that Marx and Marxism should appear newly relevant to a society anxious about the prospects of its own impending technological revolution. In what follows, I hope to show that this renewed interest in Marx—heralded by recent texts with titles like *The Marx Revival*—is not misplaced.⁴ For though Marx is never really dead, he must periodically be disinterred.

2. The Forces and Relations of Production

At the foundation of Marx's theory of history is his distinction between the forces and the relations of production. By the forces of production, Marx intends to refer to all and only those elements that are materially (as opposed to socially) necessary for the process of production. The category thus includes both the means of production—tools and machines, raw materials, and the physical premises on which

³ Karl Marx and Friedrich Engels, "Manifesto of the Communist Party," In *The Marx-Engels Reader*, 476.

⁴ Marcello Musto, ed., *The Marx Revival* (New York: Cambridge University Press, 2020).

production takes place—and labor power. The latter is to be understood quite broadly so as to comprehend all of the productive faculties that laborers contribute to the productive process. This includes not only strength and skill but also the specialized or even scientific knowledge that laborers rely on in production. However, labor power must not be understood so broadly as to include elements that merely facilitate production but which are not strictly necessary to the productive process. Various ideologies, such as the Protestant work ethic, may facilitate production in various indirect ways, but, because they are not strictly necessary, they are not to be counted among the forces of production.⁵ We must also exclude factors that are socially but not materially necessary. The guard at the door may be necessary in order to ensure that a restive and captive labor force does not escape the factory, but he is only socially necessary and therefore not among the forces of production. Such exclusions are required if we are to fashion a concept that includes only the objective and therefore socially universal core of the productive process—

what is demanded by nature rather than by convention.⁶

Marx is sometimes accused of being a technological determinist.⁷ This is both false and misleading. It is false because, as we shall shortly see, the relations of production, which are not technological in any plausible sense of that term, also influence the course of historical development by either facilitating or ‘fettering’ the development of the forces of production. Marx also makes clear in various passages that ideology and other elements of the superstructure have an important role to play in stabilizing class and therefore production relations. The charge is also misleading because *even if* the forces of production were taken to be the sole determining factor in human history, they include much more than would ordinarily be classified as technology. One does not normally consider raw materials and the vagaries of their geographic distribution to be a purely technological matter—though Marx is clear that such things influence the course of history.⁸ Nor is it typical to include mechanical and organizational skill or scientific knowledge—all of which Marx considers forces of production—under the

⁵ For a review of the textual evidence for this claim that the productive forces include nothing social in nature, see Cohen, *Karl Marx’s Theory of History*, 33-35.

⁶ Consider the following representative statement from Marx: “The labor process as we have just presented it ... is ... independent of every form of [human] existence, or rather it is common to all forms of society in which human beings live. We did not, therefore, have to present the worker in his relationship with other workers; it was enough to present man and his labor on one side and nature and its materials on the other. The taste of porridge does not tell us who grew the oats, and the process we have presented does not reveal the conditions under which it takes place, whether it is happening under the slave-owners brutal lash, or the anxious eye of the capitalist” Karl Marx, *Capital, Volume 1*, trans. Ben Fowkes (New York: Penguin,

1976), 290. See also *Capital, Volume 1*, 291, where Marx describes the forces of production—“its objective factor, the means of production, as well as its personal factor, labour-power”—as “the necessary factors of the productive process.”

⁷ See, for example Robert L. Heilbroner, “Do Machines Make History?,” *Technology and Culture*, 8 (July 1967): 335-345. Heilbroner’s discussion relies on a single quotation from Marx. For a reply showing that Marx’s position cannot accurately be described this way, see Bruce Bimber, “Three Faces of Technological Determinism,” in *Does Technology Drive History?*, ed. Merritt Roe Smith and Leo Marx (Cambridge: MIT Press, 1994), 79-100. See also David Harvey, *A Companion to Marx’s Capital* (New York: Verso, 2010), 189-212.

⁸ See, e.g., the discussion in *Capital, Volume 1*, 647-648

heading of technology. On a facile reading, Marx could be seen as a ‘forces of production’ determinist but never as a technological determinist.

The relations of production consist of all the ownership relations that take persons and/or productive forces as their relata.⁹ Relations of production thus differ between different modes of production. In the capitalist mode of production, for example, the means of production are privately owned, which means that certain individuals own the tools and machines, the factories, and the raw materials that are necessary for the production of commodities. But in the capitalist mode of production no one, not even a capitalist, is permitted to own another person—either in whole, as in systems of slavery, or in part, as in systems of serfdom. All individuals, capitalists and workers alike, own their own labor power and may dispose of it as they wish. This is the (merely ‘formal’ or juridical sense) in which Marx will allow that workers are free. The more substantive sense in which workers are unfree derives from the fact that they own neither the means of production necessary for the manufacturing of commodities nor the means of production necessary for their own subsistence. As a result, they are forced to sell their labor power to some capitalist or other (they are usually free to choose which one) if they are to receive a wage and maintain their own existence.

Marx succinctly describes the dialectical interplay between the forces and relations of production in the 1859 preface to his *A*

Contribution to the Critique of Political Economy.

At a certain stage of their development, the material productive forces of society come into conflict with the existing relations of production or—what is but a legal expression for the same thing—with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an epoch of social revolution. With the change of the economic foundation the entire immense superstructure is more or less rapidly transformed.¹⁰

Consider the manner in which the development of AI is putting pressure on the current relations of production. Among the many AI-related concerns of the striking workers of the Screen Actors Guild is the possibility that film studios could claim ownership rights over the digital likenesses of background actors.¹¹ It is true that these actors would have to ‘consent’ to such a ‘sale’—but given their class position as propertyless sellers of labor power, such sales are inherently coercive. Equally disturbing is the recent news that Zoom, a meeting platform that has become unavoidable for the majority of white-collar workers and workers in the so-called knowledge economy, has surreptitiously changed its privacy policy and terms of service to allow them to use the images of their customers to train proprietary

⁹ Cohen, *Karl Marx’s Theory of History*, 34.

¹⁰ Karl Marx, “Marx on the History of His Opinions,” in *The Marx-Engels Reader*, edited by Robert C. Tucker (New York, W. W. Norton and Company, 1978), 4.

¹¹ Bobby Allyn, “Movie Extras Worry They’ll Be Replaced by AI. Hollywood Is Already Doing Body Scans,” *NPR*, August 2, 2023, <https://www.npr.org/2023/08/02/1190605685/movie-extras-worry-theyll-be-replaced-by-ai-hollywood-is-already-doing-body-scan>.

machine learning algorithms.¹² Once again, users must ‘consent’ to these terms of service before using the app—and who among us does not read the dozens of pages of legalese explaining these policies before clicking ‘I agree’?—but there is little real alternative for remote workers or those with whom they work. Companies like Zoom will insist that they are not claiming ownership rights over their users’ digital likenesses, but what is disturbing is that they are not allowing their users to exercise their ownership rights either.

Consider as well the screenwriters concerned that their prior work might be used to compose new, authorless screenplays for which they will receive neither compensation nor attribution.¹³ AI has already ‘composed’ music based on the work of a famous entertainer, raising similar concerns for those in the music industry.¹⁴ A world without actors, screenwriters, or musicians no longer seems impossible. Then there are the translators whose translations are used to train algorithms that could render translators superfluous. In the capitalist system it is not only capitalists who produce their own grave-diggers.

In his early work on alienation, Marx describes the process whereby the product of a worker’s labor comes to rule over her as an alien power. This is an apt description of what is occurring in the cases just canvassed. The screenwriter produces a screenplay, and by doing so also indirectly

produces the screenwriting algorithm that threatens her job. But the worry is not simply about what jobs will be lost; it concerns also the nature of those that will remain. Marx objects to the mechanization and routinization of work in large part because it alienates workers from their own ‘species-essence’—from their nature as creative producers. What is perhaps most disturbing about the prospects of generalized artificial intelligence is the possibility that even the few creative occupations remaining in the economy will be eliminated or reduced in scope. The screenwriter might be reduced to a copy editor of machine-generated content.

In all of these cases we can see that new forms of ownership (relations of production) are required to facilitate the development of AI (one of the forces of production). Consider that most machine learning algorithms are trained on data sets that consist largely of other people’s work. LLMs (large language models) like ChatGPT are fed enormous data sets consisting of such things as online articles or Wikipedia entries—companies are rarely forthcoming about where they gather their data from, but ChatGPT is said to trawl the entirety of the internet—and use such data sets to predict (and then to write) the next word or phrase occurring in a text. Because the data sets used to train these machines have to be enormous, it would not be economically viable for companies to reimburse authors for the use of their

¹² Emily Bloch, “Zoom Can Now Use Your Data to Train Its AI, Even Though It Says It Won’t. Here’s What You Need to Know,” *Philadelphia Inquirer*, August 10, 2023, <https://www.msn.com/en-us/news/technology/zoom-can-now-use-your-data-to-train-its-ai-even-though-it-says-it-wont-heres-what-you-need-to-know/ar-AA1f6kSmsn.com>).

¹³ Dawn Chielewski and Lisa Richwine. “‘Plagiarism Machines’: Hollywood Writers and Studios Battle

Over the Future of AI.” *Reuters*, May, 3, 2023.

<https://www.reuters.com/technology/plaiarism-machines-hollywood-writers-studios-battle-over-future-ai-2023-05-03/>.

¹⁴ Chloe Veltman, “When you realize your favorite song was written and performed by ... AI,” *NPR*, April 21, 2023, <https://www.npr.org/2023/04/21/1171032649/ai-music-heart-on-my-sleeve-drake-the-weeknd>.

work. The development of AI thus requires a large and easily accessible domain of publicly available texts for the training and fine-tuning of its algorithms. These texts must have the effective status of communal property—anyone can access them and no one is required to be reimbursed for their use—and that is how the developers of ChatGPT and other LLMs are treating them.

The problem—perhaps we should say ‘contradiction’—is that these texts are not, in fact, communal property. They have owners who are increasingly concerned about the infringement of their ownership rights. Margaret Atwood and thousands of other prominent authors have recently called on AI companies to stop using their work without their consent or reimbursement;¹⁵ authors of fan fiction have started taking their work offline for fear that it will be harvested and used to write AI-generated screenplays of their favorite shows;¹⁶ newspapers have begun blocking ChatGPT and other LLMs from using their content;¹⁷ comedian Sarah Silverman is even suing AI companies for using her work to train their algorithms without her permission.¹⁸ This is the conflict between ‘the material productive forces of society’ and ‘the existing relations of production’ that Marx describes in the 1859 Preface. And it is not too difficult to imagine a future in which the existing relations of production

actually come to fetter the development of AI. People will become more wary of putting their work or their images online, will become more likely to sue for compensation, and will perhaps even sabotage the process by deliberately polluting online data sets with incoherent, misleading, or simply false claims. This would lead to smaller and more corrupted data sets, which would lead to suboptimal training for AI, which would lead to suboptimal AI. The forces of production will have become fettered. Next comes the ‘era of social revolution’.

The development of artificial intelligence requires a form of property, and thus a set of production relations, that does not currently exist. How are these forces to become unfettered? More importantly, should we allow them to become unfettered? To answer the second question, we must leave Marx behind, for he suffered from the common 19th-century prejudice that technological change is inevitable and inevitably for the better. (He thus suffered from a kind of technology fetishism, as we shall see below). Marx was aware that various conservative forces in society attempt to maintain their privileges by holding fixed the existing production relations, and thus the class relations to which they give rise—as when feudal lords insisted on retaining their serfs despite capitalism’s need for free laborers to fuel

¹⁵ Lucy Knight, “Authors Call for AI Companies to Stop Using Their Work Without Consent,” *The Guardian*, July 20, 2023, <https://www.msn.com/en-us/news/technology/zoom-can-now-use-your-data-to-train-its-ai-even-though-it-says-it-wont-heres-what-you-need-to-know/ar-AA1f6kSmdian>.

¹⁶ Sheera Frenkel and Stuart A. Thompson, “‘Not for Machines to Harvest’: Data Revolts Break Out Against AI,” *New York Times*, July 15, 2023, <https://www.nytimes.com/2023/07/15/technology/artificial-intelligence-models-chat-data.html>.

¹⁷ Dan Milmo, “The Guardian Blocks ChatGPT Owner Open AI From Trawling Its Content,” *The Guardian*, September 1, 2023, <https://www.theguardian.com/technology/2023/sep/01/the-guardian-blocks-chatgpt-owner-openai-from-trawling-its-content>.

¹⁸ Zachary Small, “Sarah Silverman Sues OpenAI and Meta Over Copyright Infringement,” *New York Times*, July 10, 2023, <https://www.nytimes.com/2023/07/10/arts/sarah-silverman-lawsuit-openai-meta.html>.

accumulation. But he seems to have thought that their cause is hopeless and misguided.

It is not clear that this is true in the present case. If the unfettering of AI means a world without human artists, composers, writers, comedians—without human creativity—it does not seem at all misguided to keep these forces fettered. And this doesn't even take into consideration the millions of truckers, taxi operators, bus drivers, and the like who will be put out of work by self-driving cars, or the millions of others working in jobs we can't yet identify who will be put out of work by technological developments we can't yet imagine. Consider as well that the conservative forces in the present case are not aristocrats and feudal lords but the various artists and writers whose content AI companies require to train their machines. At the extreme, this includes anyone who has posted content to the internet. In a sense, the means of production are now broadly owned, for creative content is among the raw materials of this new production process. This means that artists and writers, but also ordinary people, will perhaps have some control over how or even whether this new technology is developed and used. Thus the conservative cause in this case does not appear either hopeless or misguided.

It is, however, worth considering the possibility that in contemplating this dystopian future devoid of human creativity and plagued by mass unemployment we are in the position of David Brooks contemplating a world of better workers. That is, it may be that we are suffering from a failure of imagination. In the following sections,

I'll describe two ways in which our imaginations might be failing us.

3. Technology Fetishism

Marx famously describes the world of commodity production as “abounding in metaphysical subtleties and theological niceties.”¹⁹ And, indeed, he borrows from the realm of metaphysics and theology to describe these subtleties. Just as in the “misty realm of religion ... the products of the human brain appear as autonomous figures endowed with a life of their own,” so in the realm of commodity production do the products of the human hand appear endowed with a value of their own.²⁰ This is the phenomenon of commodity fetishism, whereby the exchange values of commodities are made to appear as objective, even physical characteristics of things when in fact “the characteristic which objects of utility have as being values is as much men's social product as is their language.”²¹ On Marx's account, the exchange value of a commodity is determined by the amount of labor socially necessary to produce it: 20 yards of linen can be fairly exchanged for 10 lbs. of tea, 40 lbs. of coffee, or 2 ounces of gold because the same amount of human labor is required to produce the objects on either side of the exchange. The exchange of commodities is thus an exchange of human labor, but this reality is disguised by the peculiar features of the capitalistic production process. In the barter economies of myth and lore, a farmer and a hunter might agree to an exchange of wheat for furs. If the exchange were not fair—if it took different amounts of labor for the hunter to produce the fur and the farmer the wheat—the loser in the exchange would quickly change

¹⁹ *Capital, Volume I*, 163.

²⁰ *Capital, Volume I*, 165.

²¹ *Capital, Volume I*, 167.

professions, making future exchanges impossible.²² It would thus be obvious to both parties that what they were agreeing to was a fair exchange of labor. In a capitalist economy, however, this fact is disguised by the separation between the realm of production and the realm of exchange. The producers of commodities receive wages for their labor and only later exchange these wages for commodities. The reality of the situation is further disguised by the fact that laborers do not receive a wage commensurate to their labor, which means that wages buy less labor than they took to produce.

Serious objections beset the labor theory of value upon which Marx's notion of commodity fetishism depends, but they do not affect the more general notion of a fetish or the particular species of fetish I will discuss in this section.²³ We get a sense of the more general notion from the following critique Marx levels against bourgeois economists.

The categories of bourgeois economics consist precisely of forms of this kind. They are forms of thought which are socially valid, and therefore objective, for the relations of production belonging to this historically determined mode of social production, i.e., commodity production. The whole mystery of commodities, all the magic and necromancy that surrounds the products of labor on the basis of

commodity production, vanishes therefore as soon as we come to other forms of production.²⁴

Fetishism, in general, is the confusion whereby a social (and therefore relational) property of some object—a commodity, for example—is taken to be an intrinsic property of the object and thus to be socially universal. It is akin to the confusion of weight with mass. Technology fetishism, in particular, is the application of fetishistic confusion to technology and to the forces of production more generally. To reveal the confusion of weight with mass, one simply (?) needs to change the second variable by weighing the same object in different gravitational fields. To reveal the fetishist's confusion, one needs to consider the same object in different social settings.

Let us take as our example the fetishistic belief that technology drives economic growth. This is something one might expect to hear from a representative of what Marx would call the class of 'vulgar' economists (we'll consider the beliefs of more sophisticated economists in the following section). Because it will help soften the ground a bit, let us begin with an idealistic diagnosis of this fetishistic belief before proceeding to a materialistic one. Consider an observation Weber makes concerning the effect that raising piece rates has on a certain, 'traditional' frame of mind:

²² This argument is due originally to Smith, though he uses the example of deer being exchanged for beavers. See Adam Smith, *An inquiry into the Nature and Causes of the Wealth of Nations*, edited by W. B. Todd in *The Glasgow Edition of the Works and Correspondence of Adam Smith*, edited by R. H. Skinner and A. S. Skinner, 2 vols. (New York: Oxford University Press, 1976), 65.

²³ Nor do they affect the underlying idea behind commodity fetishism—that value of a commodity is socially rather than intrinsically determined. What will be affected is only the details about how value is socially determined.

²⁴ *Capital, Volume I*, p. 169.

[A] peculiar difficulty has been met with surprising frequency: raising the piece-rates often had the result that not more but less has been accomplished in the same time, because the worker reacted to the increase not by increasing but by decreasing the amount of his work ... The opportunity of earning more was less attractive than that of working less.²⁵

People in ‘economically traditional’ societies (Weber also calls them ‘backward’—though he does qualify this by adding ‘from a capitalistic point of view’) do not view the accumulation of wealth as an end in itself and are therefore willing to consider the trade-off between money and leisure. Let us imagine, then, that a new and more efficient plow is introduced into this community of economic traditionalists. This new plow allows for the same work to be done in half the time. Lacking what Weber calls the ‘acquisitive instinct,’ these farmers will once again choose leisure over accumulation, earning less rather than working more, which proves that the fetishistic belief is false. It is not true that technology drives growth because in societies lacking Weber’s acquisitive instinct technological advances are used to increase leisure rather than wealth. Indeed, because desiring accumulation for its own sake is “so irrational from the standpoint of a purely eudaimonistic self-interest”—a point to which we shall return below—Weber is required to explain it as the by-product of something else, a Protestant ethic that views work itself as a calling.²⁶

²⁵ Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (New York: Charles Scribner’s Sons, 1958), 59-60.

Weber does not neglect the social variable in his account, but his social variable has an idealistic rather than materialistic flavor. A materialist would point out that in order for those in a traditional society to have the option of choosing between more money and more leisure certain ownership relations must already be in place. Weber’s account presupposes a system of yeoman farmers or independent producers that own their own means of production and are therefore not required to sell their labor power to an employer. If someone else owns the plot of land on which the farmer works or the plow with which she works it, it will not be up to her whether she works more or works less. Indeed, in the capitalist mode of production choosing leisure over accumulation is not an option for *either* the worker *or* the capitalist. A capitalist who rewards increased productivity with decreased working hours will quickly be out of business. A more materialistic account of the social variables distinguishing our yeoman farmers from proletarian workers would thus have no need to take acquisitive instincts and accumulative desires into account. A yeoman farmer can choose more leisure over more money only because she owns her farm and isn’t forced to work for someone else. A capitalist cannot choose leisure over money for her workers because she “must, on pain of bankruptcy, obey the imperative: seek to expand the exchange-value at your disposal”.²⁷ A worker cannot choose leisure over money because she must, on pain of starvation, work for a capitalist.

The belief that technology drives economic growth is thus a kind of half-truth. It is true, in a society with capitalistic

²⁶ Weber, *The Protestant Ethic*, 68.

²⁷ Cohen, *Karl Marx’s Theory of History*, 302.

production relations, that technology drives economic growth because neither employer nor employee is able to choose leisure over accumulation. But it is false, in a system of independent producers, that technology drives economic growth because independent producers, owning their own means of production and not required to produce commodities for a competitive market, are free to choose leisure over accumulation. The tendency to drive economic growth is thus a relational rather than an intrinsic property of technology. It exists only within certain sorts of economic systems.

This is not to say that the worries of the artists, entertainers, writers, and comedians canvassed in the previous section—to say nothing of the many blue-collar workers whose jobs are also vulnerable to automation—are unjustified. It is true that AI doesn't have to be used to lower labor costs and increase profits, full stop; but it is also true that AI has to be used to lower labor costs and increase profits in a capitalistic system. For the same reasons that capitalist firms cannot choose to decrease working hours at the cost of accumulation, they cannot choose to use (or not to use) technological advances as they see fit. Firms that don't employ AI in the most economically efficient ways will lose out in the competitive struggle with those that do. Objects really do have the powers the fetish attributes to them, but their possession of these powers is partly due to the socially contingent relations of production in which the object is placed. That the fetishized object really has the properties attributed to it—if only contextually—helps

to explain why people fall prey to such illusions.

What also helps to explain—and maintain—such illusions is the fact that the second variable is held constant in one's experience. The increasingly global nature of capitalism ensures that there will be few if any readily available examples of technologies that have been put to the sorts of uses disfavored by the capitalist mode of production. The ubiquity of a context can render it invisible. Indeed, it is often the alternatives that seem to require explanation, as witnessed by the puzzlement of those who note that the steam turbine was developed in Ancient Greece but never put to 'productive' use. The fact that an economic system based on slavery has little need for labor-saving technologies is rarely considered.

We have hitherto been operating with a narrow construal of technology fetishism, according to which properties and powers that are really a joint product of the forces and relations of production are attributed to the former alone. On this construal, fetishes are, as Cohen nicely puts it, more like mirages than hallucinations.²⁸ But there is a second, more expansive interpretation, which also has textual support in Marx, according to which fetishes are more like hallucinations than mirages. David Harvey, for example, defines fetishism as "the habit humans have of endowing real or imagined objects or entities with self-contained, mysterious, and even magical powers to move and shape the world in distinctive ways."²⁹ Note that on Harvey's construal, the fetishized objects needn't have (either intrinsically or relationally) the

²⁸ Cohen, *Karl Marx's Theory of History*, 115.

²⁹ David Harvey, "The Fetish of Technology: Causes and Consequences," *Macalaster International*, 13

(2003): 4. <http://digitalcommons.macalester.edu/macintl/vol13/iss1/7>.

powers attributed to them—indeed, the fetishized objects needn't even exist. Harvey's more expansive construal of fetishism and thus of technology fetishism allows him to identify varieties of thought distortion that the narrower construal misses.

Of foremost importance among the technological fetishes Harvey catalogues is the belief that "technological progress is both inevitable and good".³⁰ (Even Marx was a victim of this fetish, as we've already had occasion to observe.) This belief gives rise to a variety of often noxious downstream effects, such as the faith that every problem has a technological fix, as in the darkly comic case of climate change, where, in the eyes of the faithful, technology is both the cause and the solution. Faith in the essential benevolence of technology often persists even in the face of overwhelming counterevidence, as in the case of recent revelations concerning the consequences of social media usage on the mental health of children and young adults.³¹ Another downstream effect, one of particular concern to educators, is the belief that all the old ways must be changed to accommodate the latest technological innovations. Consider the way in which universities in the United States rush to introduce the latest technological developments to classroom instruction. Only a Luddite would

deny that ChatGPT has some role to play in college instruction, but the expansive role imagined by some academics—there's talk of allowing (even requiring) students to use AI to write first drafts of essays, of designing assignments with AI in mind—is surely the result of a misplaced faith in technology. Equally revealing is the inevitable justification: it's what employers are calling for.³²

4. Naturalistic Mystification

Technology fetishism, and fetishism more generally, is a rather unsophisticated sort of confusion. Indeed, one might object that any diagnosis relying on the attribution of such a facile mistake to society at large is itself rather unsophisticated. Consider Harvey's example of the fetishistic belief that automobiles have transformed modern cities.³³ Anyone expressing such a belief will, if pressed, agree that it is, of course, not the automobile itself but the automobile together with certain other (vaguely surmised) social factors that transformed the city. But fetishism is not intended as a diagnosis of the distortions affecting the considered judgments of social actors. Fetishism is meant to apply only to the surface appearance of things. It can seem to unreflective judgment the sun is setting on the horizon—even if, when pressed by a pedant, one will concede that

³⁰ Harvey, "The Fetish of Technology," 12. Note that this belief only qualifies as a fetish on the broader construal because both conjuncts are, at least arguably, false.

³¹ See, for example, Luca Braghieri, Ro'ee Levy, and Alexey Makarin, "Social Media and Public Health," *American Economic Review*, 12, no. 11, (November 2022): 3660-93.

³² Cole Claybourn, "Why Some College Professors Are Embracing ChatGPT," *U.S. News and World Report*, May 9, 2023, <https://www.usnews.com/education/best-colleges/articles/why-some-college-professors-are-embracing->

[chatgpt#:~:text=A%20major%20function%20of%20AI,based%20on%20what%20they%20need.](https://www.usnews.com/education/best-colleges/articles/why-some-college-professors-are-embracing-chatgpt#:~:text=A%20major%20function%20of%20AI,based%20on%20what%20they%20need.)

³³ Harvey, "The Technology Fetish," p. 4. Harvey (2004) gives another nice example of the technology fetish at work. A capitalist might believe that a newly introduced technology is the cause of his increased profit, but this is of course, only partly true. It is also because his workers do not receive a share of the surplus that his profit has increased. Thus the production relations connecting workers and employees partially explain the source of his profits.

this appearance is merely the effect of the earth's rotation. Similarly, it can seem to unreflective judgment that automobiles themselves have transformed cities even if, on reflection, one will concede that they have not.³⁴ This should not be seen as undermining the importance of fetishistic confusions or their impact on public discussion and debate. Most of our daily judgments are unreflective and habitual. Moreover, false appearances can often bias and even shape considered judgments. Indeed, seems to be what explains the genesis of naturalistic mystification.

Consider Cohen's description of the process whereby classical political economy evolves from the vulgar economic thought of businessmen.

The vulgar economist accepts the concepts the capitalist uses in his business practice and systematizes them. Since the underlying reality is irrelevant to business practice—what concerns the capitalist is not the source of value but how he may obtain some—it goes unnoticed in vulgar economy. Classical political economy penetrates beneath surface categories, but it thinks that what lies beyond them is naturally and inevitably expressed in them.³⁵

The classical political economist will concede that, strictly speaking, it is not the automobile that transformed cities, but she

will also insist that the social factors that partly determined the result were 'natural and inevitable'. She will insist that it is not actually possible that the automobile could have had a different effect on the modern city, for a society in which different decisions were made would have to have been composed of beings with a different nature. Such beliefs are examples of what Mills, following Marx, calls naturalistic mystification, which Mills defines as "the viewing of social phenomena as if they were natural events, undetermined by human action."³⁶ If the technology fetish renders production relations invisible, naturalistic mystification portrays them as natural and therefore immutable.

To provide a framework for Mills' discussion, we should begin, as he does, by distinguishing different types of possibilities. There is, first, what is logically or metaphysically possible. This includes all of those possibilities—or possible worlds, as philosophers like to say—that do not entail a logical contradiction. There are, for example, logically possible worlds in which objects travel faster than the speed of light or violate the laws of gravity. Such worlds are logically but not physically possible. What is physically possible is a (proper) subset of what is logically possible—it includes all and only the logically possible worlds that share our laws of nature. Contained within the set of physically possible worlds is the set of the technologically possible worlds. This set,

³⁴ See, e.g., Author Ripstein, "Commodity Fetishism," *Canadian Journal of Philosophy*, 117, no. 4 (December 1987): 743, where fetishes are contrasted with failings associated with the virtue of knowledge.

³⁵ Cohen, *Karl Marx's Theory of History*, p. 127.

³⁶ Charles Mills, "Marxism and Naturalistic Mystification," *Science and Society*, 49, no. 4 (Winter 1985/1986): 472. Marx refers to "The crude materialism of the economists who regard as the natural properties of things what are social relations of production"

(Karl Marx, *Grundrisse*, trans. Martin Nicolaus (New York Penguin, 1973), p. 687, quoted in Mills, "Marxism and Naturalistic Mystification," 477). Mills doesn't always distinguish fetishism from mystification in the way that I do, but I believe that there is sufficient textual evidence in Marx for the distinction. Indeed, in the remainder of the passage quoted above, Marx compares (and thus distinguishes) them, writing that mystification is "just as crude" as fetishism.

unlike the others, expands over time. What is technologically possible today is a superset of what was technologically possible one hundred years ago and (likely) a subset of what will be technologically possible one hundred years from now. The boundaries of what is technologically possible may one day approach the boundaries of the physically possible. Such, anyway, is the dream of futurists and science fiction enthusiasts.

Mills notes that what Marxism adds to this series of concentric circles is an inner circle contained within the set of the technologically possible, which we might call the socially or politically possible.

[I]n class society there are limits to the socially achievable which are well *within* the bounds of technical possibility. In other words, there are many goals which are both technically achievable and morally desirable, but which are rendered unrealizable by their conflict with the particular economic mode of production prevailing at the time.³⁷

If the forces of production determine the boundaries of the technologically possible, it is the relations of production that determine the boundaries of the socially possible use of these technologies. Naturalistic mystification functions by collapsing the distinction between the two. It portrays the contingent social relations of a particular mode of production as being fixed by human nature and therefore as being incapable of modification. It allows that different social and economic relations are logically, and perhaps even physically,

possible, but denies that they are humanly possible. By reifying the social relations prevailing at a time into immutable consequences of human nature, naturalistic mystification makes it seem as though the narrow boundaries of the socially possible are one and the same as the effective limits of current technology. When these social relations are revealed as merely contingent, the scope of the technologically possible expands accordingly.

Readers of early modern political philosophy and classical political economy will be familiar with any number of cases in which production relations—and social relations more generally—are derived from a consideration of human nature. Consider, for example, the role played by the state of nature in Hobbes' *Leviathan* or Locke's *Second Treatise*.³⁸ In both cases, contingent features of 17th century Britain are claimed to be the inevitable result of 'natural' relations between individuals in a pre-social, and therefore pre-artificial, past—absolute monarchy for Hobbes, private property for Locke. Of course, the primordial pasts described are highly artificial. A state of nature in which people confront each other as isolated and purely self-interested individuals seeking to maximize personal utility has never existed—Hobbes seems to forget that people are born into families, Locke that families are part of extended kinship systems—and is, in fact, a more accurate description of a society trying to piece itself back together after civil war. It is not surprising that Hobbes and Locke neglect the family, for liberalism, as Ellen Wood argues, is the political philosophy of civil society and the

³⁷ Mills, "Marxism and Naturalistic Mystification," 473.

³⁸ Thomas Hobbes, *Leviathan*, ed. Richard Turk (New York: Cambridge University Press, 1996); John

Locke, *Second Treatise of Government*, ed. C. B. Macpherson (New York: Hackett, 1980).

bourgeoise marketplace, where people confront each other as self-interested strangers looking to maximize exchange value.³⁹

Consider as well Adam Smith's "natural propensity to truck, barter, and exchange," from which the division of labor and free markets are said naturally to evolve.⁴⁰ So natural is this propensity that anthropologists have documented not a single instance of a pure barter economy in human history.⁴¹ In fact, what David Graeber calls the "Myth of Barter," according to which "[f]irst comes barter, then comes money"—so natural to our way of thinking and ubiquitous in the literature of classical economics—appears to get things backward.⁴² Barter economies seem to appear only among people who are already familiar with money but who, for one reason or another, can't find enough of it to lubricate exchange relations—as when prisoners exchange cigarettes for goods and services.⁴³ When bartering does occur in the anthropological record, it is only between distinct and often hostile societies, and even then it is a heavily ritualized affair.⁴⁴ Far from being natural, the propensity to barter seems, in fact, to be highly artificial.

'Nature' and 'natural' are, of course, ambiguous expressions, straddling the divide between the descriptive and the

normative. To call something natural in the descriptive sense is to say that it is part of the human biological endowment, present in the genome along with genes encoding for eye color. To call something natural in the normative sense is, however, to commend it morally. What is natural in this sense is what is good. The ambiguity is not always noticed, and this allows for a strategic sort of equivocation that disguises moral claims as descriptive facts. The claim that the division of labor, or markets, or private property is natural (descriptive) becomes the claim they are good. Even if the premise were true, the conclusion wouldn't follow, for ever so many things that are natural are not in any obvious sense good. Plutonium, after all, is an element. The equivocation between the descriptive and normative senses of 'natural' inclines us to believe that what is natural is not only the way things are but the way they should be. It is therefore not only futile to attempt to change what is natural; it is also wrong.⁴⁵

The effect of naturalistic mystification, as Mills observes, is to channel social discontent away from paths that might threaten the existing social and economic relations.

[P]otential criticism of the existing social arrangements, and the corresponding attempts at a

³⁹ See Ellen Wood, "Democracy," in ed. Marcello Musto *The Marx Revival* (New York: Cambridge University Press, 2020), 51-69. See also Marx's "On the Jewish Question," in *The Marx-Engels Reader*, 26-52.

⁴⁰ Smith, *Wealth of Nations*, 117.

⁴¹ David Graeber, *Debt: The First 5,000 Years* (Brooklyn: Melville House, 2014), 21-41.

⁴² Graeber, *Debt*, 22.

⁴³ Graeber, *Debt*, 37.

⁴⁴ Graeber, *Debt*, 37.

⁴⁵ Sexism and racism are two obvious ways in which the invocation of natural facts can be used to reify contingent social relations and make them appear

immutable. See Charles Mills, *The Racial Contract* (Ithaca: Cornell University Press, 1997) for a classic exposition of this thesis. As has often been noted, these sorts of social pathologies are not meant to work on the victims of the injustice but on the perpetrators. It is difficult for psychologically normal human beings to accept that what they are doing is wrong, that they are taking unfair advantages, that they are committing injustices. Appeals to nature can help to assuage a guilty conscience and convince the perpetrators of injustice (or allow them to convince themselves) that there is, after all, really no alternative.

transformative *social* practice, will be preempted. Either they will be deflected into efforts at mastering nature alone, as the sole material barrier standing between human ideals and their realization, or they will be diffused into a harmless, fatalistic bewailing of an impervious causality. In effect, then, these two alternatives constitute the poles of a classical mystificatory dichotomy of bourgeois thought: the solutions to social problems are presented as merely technical, necessitating no social transformation, or it is denied outright that there are any solutions at all.⁴⁶

Consider the manner in which people of developing nations “are treated as geographically blighted martyrs of unfavorable configurations of climate, topography, and natural resources rather than of victims of particular economic systems”—including, of course, those of colonialism and neocolonialism.⁴⁷ Consider as well the common tendency, described in the previous section, to view climate change as a technological problem in need of a technological solution. Green energy, electric cars, AI-managed efficiencies, and the like are offered as solutions to the climate problem, while the rather more obvious solution of curbing energy consumption is said to be impractical or impossible. It is probably true that curbing consumption sufficiently to make a difference is impossible within an economic system predicated on endless growth and fueled by profit-seeking, but that is a far different thing from being impossible.

⁴⁶ Mills, “Naturalistic Mystification,” 480.

⁴⁷ Mills, “Naturalistic Mystification,” 480.

⁴⁸ *Capital, Volume 1*, 874.

The cure for technology fetishism is to become aware of the formerly invisible relations of production that determine the allowable uses of current technology. The cure for naturalistic mystification is to study societies in which the capitalistic system of production does not predominate. (It is also worth studying the process of ‘primitive accumulation’ that brought capitalism into the world and in which “conquest, enslavement, robbery, murder, in short, force play the greatest part”⁴⁸). It is useful, as well, to imagine the contours of a future society that has slipped the bonds of capitalism’s fetters.

5. Conclusion: AI and Human Liberation

The bourgeoisie, as readers of the *Communist Manifesto* will know, “cannot exist without constantly revolutionizing the instruments of production”.⁴⁹ Indeed, their accomplishments in this regard are said to be unparalleled: “The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together”.⁵⁰ The role of technology in the production process is to increase productivity, and with increased productivity one can—in theory, at least—either increase production or increase leisure. But, as we’ve seen, increasing leisure is not a serious option for individuals in a system of capitalistic production relations. We thus arrive at the paradox identified by Cohen:

The economic form most able to reduce toil is least disposed to do so

⁴⁹ Marx and Engels, “Manifesto of the Communist Party,” 476.

⁵⁰ Marx and Engels, “Manifesto of the Communist Party,” 477.

.... [Capitalism]⁵¹cannot realize the possibilities of liberation it creates. It excludes liberation by febrile product innovation, huge investments in sales and advertising, and contrived obsolescence. It brings society to the threshold of abundance and locks the door. For the promise of abundance is not an endless flow of goods but a sufficiency produced with a minimum of unpleasant exertion.⁵²

To resolve this paradox we must first recognize its source. It is not technology itself that forces us to choose ‘febrile product innovation’ over leisure and true abundance. Technology forces the choice of accumulation over leisure only within a capitalist society and thus only contingently. The yeoman farmer who purchases a new and more efficient plow is not thereby required to increase her yield. ChatGPT and artificial intelligence more generally do not have to be used to decrease labor costs and increase profits. They can be used to liberate us from lives of toil and exertion.

Marx and Engels are often criticized for their ‘naïve’ depiction of life in a post-capitalist future, in which, they say, one will be free to “hunt in the morning, fish in the afternoon, rear cattle in the evening” and “criticize after dinner ... without ever becoming hunter, fisherman, shepherd, or critic.”⁵³ Free from the shackles of a long working day and taking advantage of the world of abundance afforded by

technology-fueled increases in productivity, individuals would be able to develop their full human potential as creative producers. Perhaps critics are right to dismiss this as a utopian fantasy. But consider that Marx and Engels wrote these words in the 1840s—long before the invention of the telephone, the automobile, the airplane, the computer, or the internet, to say nothing of the various agricultural innovations that make obesity a far more likely prospect in developed countries than malnutrition. Consider that it was possible for two rather intelligent social commentators to believe that the societies of Western Europe and the United States had, due to the technological innovations of the early 19th century, approached the point of true abundance, the point beyond which it was reasonable to choose leisure over new forms of consumption. They may have been wrong, and we may be wrong to think that we have reached that point nearly two centuries later, but it cannot be wrong to believe that human liberation consists of something more than ‘an endless flow of goods’.⁵⁴

If this is correct, and if AI has the potential to increase productivity in ways comparable to the Industrial Revolution, it would be absurd not to consider alternatives to a mode of production that locks us into endless accumulation and forecloses any possibility of human liberation. If our current conceptions of technology and

⁵¹ Cohen is specifically speaking about advanced capitalism, but the distinction won’t matter for our purposes.

⁵² Cohen, *Karl Marx’s Theory of History*, 306-307.

⁵³ Marx and Engels, “The German Ideology,” in *The Marx-Engels Reader*, 160.

⁵⁴ It must, of course, be noted that even if a life dedicated to endless consumption were in itself desirable,

it is no longer environmentally sustainable. Climate change and its attendant catastrophes will eventually force us, one way or another, to reduce consumption. Better sooner and on our own terms. This being the case, it is wise to wed climate reform to an alternative conception of human flourishing—one that includes large measures of leisure and minimizes the importance of passive consumption.

technological possibility obscure these alternatives, they must be defetishized and demystified.

References

- Allyn, Bobby. "Movie Extras Worry They'll Be Replaced by AI. Hollywood Is Already Doing Body Scans." *NPR*, August 2, 2023. <https://www.npr.org/2023/08/02/1190605685/movie-extras-worry-theyll-be-replaced-by-ai-hollywood-is-already-doing-body-scan>.
- Bimber, Bruce. "Three Faces of Technological Determinism." In *Does Technology Drive History?*, edited by Merritt Roe Smith and Leo Marx, 79-100. Cambridge: MIT Press, 1994.
- Bloch, Emily. "Zoom Can Now Use Your Data to Train Its AI, Even Though It Says It Won't. Here's What You Need to Know." *Philadelphia Inquirer*, August 10, 2023. <https://www.msn.com/en-us/news/technology/zoom-can-now-use-your-data-to-train-its-ai-even-though-it-says-it-wont-heres-what-you-need-to-know/ar-AA1f6kSmsn.com>).
- Braghieri, Luca, Levy, Ro'ee and Makarin, Alexey. "Social Media and Public Health." *American Economic Review*, 12, no. 11, (November 2022): 3660-93.
- Brooks, David. 'Brooks and Capehart.' Interview by Geoff Bennett. *News-Hour*, PBS, May 5, 2023. Audio, 8.50. <https://www.pbs.org/news-hour/show/brooks-and-capehart-on-the-controversies-involving-supreme-court-justice-clarence-thomas>.
- Chielewski, Dawn and Richwine, Lisa. "Plagiarism Machines': Hollywood Writers and Studios Battle Over the Future of AI." *Reuters*, May, 3, 2023. <https://www.reuters.com/technology/plaiarism-machines-hollywood-writers-studios-battle-over-future-ai-2023-05-03/>.
- Claybourn, Cole. "Why Some College Professors Are Embracing ChatGPT." *U.S. News and World Report*, May 9, 2023. <https://www.usnews.com/education/best-colleges/articles/why/some-college-professors-are-embracing-chatgpt>.
- Cohen, G. A. *Karl Marx's Theory of History: A Defense*. Princeton, Princeton University Press, 2000.
- Frenkel, Sheera and Thompson, Stuart A. "Not for Machines to Harvest': Data Revolts Break Out Against AI." *New York Times*, July 15, 2023. <https://www.nytimes.com/2023/07/15/technology/artificial-intelligence-models-chat-data.html>.
- Graeber, David. *Debt: The First 5,000 Years*. Brooklyn: Melville House, 2014.
- Harvey, David. "The Fetish of Technology: Causes and Consequences," *Macal-ester International*, 13 (2003): 4. <http://digitalcommons.macal-ester.edu/macintl/vol13/iss1/7>.
- Harvey, David. *A Companion to Marx's Capital*. New York: Verso, 2010.
- Heilbroner, Robert L. "Do Machines Make History?" *Technology and Culture*, 8 (July 1967):

- 335-345.
- Hobbes, Thomas. *Leviathan*. Edited by Richard Turk. (New York: Cambridge University Press, 1996).
- Knight, Lucy. "Authors Call for AI Companies to Stop Using Their Work Without Consent." *The Guardian*, July 20, 2023. <https://www.msn.com/en-us/news/technology/zoom-can-now-use-your-data-to-train-its-ai-even-though-it-says-it-wont-heres-what-you-need-to-know/ar-AA1f6kSmdian>.
- Locke, John. *Second Treatise of Government*. Edited by C. B. Macpherson (New York: Hackett, 1980).
- Marx, Karl. *Grundrisse*. Translated by Martin Nicolaus. New York: Penguin, 1973.
- Marx, Karl. *Capital, Volume 1*. Translated by Ben Fowkes. New York: Penguin, 1976.
- Marx, Karl. "Marx on the History of His Opinions (Preface to *A Contribution to the Critique of Political Economy*)." In *The Marx-Engels Reader*, edited by Robert C. Tucker, 3-6. New York, W. W. Norton and Company, 1978.
- Marx, Karl. "On the Jewish Question." In *The Marx-Engels Reader*. Edited by Robert C. Tucker, 26-52. New York, W. W. Norton and Company, 1978.
- Marx, Karl and Engels, Friedrich. "The Manifesto of the Communist Party." In *The Marx-Engels Reader*. Edited by Robert C. Tucker, 469-500. New York, W. W. Norton and Company, 1978.
- Marx, Karl and Engels, Friedrich. "The German Ideology." In *The Marx-Engels Reader*. Edited by Robert C. Tucker, 146-200. New York, W. W. Norton and Company, 1978.
- Mills, Charles. "Marxism and Naturalistic Mystification." *Science and Society*, 49, no. 4 (Winter 1985/1986): 472-483.
- Mills, Charles. *The Racial Contract*. (Ithaca: Cornell University Press, 1997).
- Milmo, Dan. "The Guardian Blocks ChatGPT Owner Open AI From Trawling Its Content." *The Guardian*, September 1, 2023. <https://www.theguardian.com/technology/2023/sep/01/the-guardian-blocks-chatgpt-owner-openai-from-trawling-its-content>.
- Ripstein, Author. "Commodity Fetishism." *Canadian Journal of Philosophy*, 117, no. 4 (December 1987): 733-748.
- Small, Zachary. "Sarah Silverman Sues OpenAI and Meta Over Copyright Infringement." *New York Times*, July 10, 2023. <https://www.nytimes.com/2023/07/10/arts/sarah-silverman-lawsuit-openai-meta.html>.
- Smith, Adam. *An inquiry into the Nature and Causes of the Wealth of Nations*, edited by W. B. Todd. In *The Glasgow Edition of the Works and Correspondence of Adam Smith*, edited by R.

H. Skinner and A. S. Skinner, 2 vols.
New York: Oxford University Press,
1976.

Veltman, Chloe. “When you realize your
favorite song was written and
performed by ... AI.” *NPR*, April 21,
2023. <https://www.npr.org/2023/04/21/1171032649/ai-music-heart-on-my-sleeve-drake-the-weeknd>.

Weber, Max. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons. New York: Charles Scribner’s Sons, 1958.

Woods, Ellen Meiksins. ‘Democracy.’ In *The Marx Revival*. Edited by Marcello Musto, 51-69. (New York, Cambridge University Press, 2020).