

Keynes's Grandchildren and Marx's Gig Workers:
Why Human Labor *Still* Matters

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Abstract

The current anxiety around the globe about automation and “the future of work,” the irrelevance of human labor, and the superfluity of human beings is based on a set of recurring ideas about technology, work, and economic value. Not quite novel, these ideas have been debated for a long time and by prominent thinkers such as Karl Marx and John Maynard Keynes. To grasp the current moment, therefore, it would be useful to revisit those debates and to understand them within the broader history of capitalism. We examine this history with a focus on labor and technology, bringing attention to the hidden forms of value creation in the current economy, as well as the blind spots of the historical debate.

1. Introduction

We are suffering, not from the rheumatics of old age, but from the growing-pains of over-rapid changes, from the painfulness of readjustment between one economic period and another. The increase of technical efficiency has been taking place faster than we can deal with the problem of labor absorption; the improvement in the standard of life has been a little too quick; the banking and monetary system of the world has been preventing the rate of interest from falling as fast as equilibrium requires.

These are the words by which the British economist John Maynard Keynes presented his diagnosis of “a bad attack of economic pessimism” that was taking hold in the early 1930s at the height of the Great Depression. “My purpose in this essay,” he wrote, “is not to examine the present or the near future, but to disembarrass myself of short views and take wings into the future. What can we reasonably expect the level of our economic life to be a hundred years hence? What are the economic possibilities for our grandchildren?”

The grandchildren Keynes had in mind, in other words, were *us*. It was mostly with us in mind that Keynes warned of “technological unemployment”—that is, “unemployment due to our discovery of means of economising the use of labor outrunning the pace at which we can find new uses for labor.” But it was also to us that he promised a life of leisure and abundance:

For many ages to come the old Adam will be so strong in us that everybody will need to do some work if he is to be contented. We shall do more things for

ourselves than is usual with the rich today, only too glad to have small duties and tasks and routines. But beyond this, we shall endeavour to spread the bread thin on the butter – to make what work there is still to be done to be as widely shared as possible. Three-hour shifts or a fifteen-hour week may put off the problem for a great while. For three hours a day is quite enough to satisfy the old Adam in most of us!

A fifteen-hour work week was Keynes' solution to the problem of "technological unemployment."

More than half-a-century before Keynes, Karl Marx, also studying the British working class, presented a different forecast about technology and the future of human labor. Writing about the reversal in the role of humans and machines, he warned as follows:

[O]nce adopted into the production process of capital, the means of labor passes through different metamorphoses, whose culmination is the machine, or rather, an automatic system of machinery...set in motion by an automaton, a moving power that moves itself; this automaton consisting of numerous mechanical and intellectual organs, so that the workers themselves are cast merely as its conscious linkages... it is the machine which possesses skill and strength in place of the worker...The worker's activity, reduced to a mere abstraction of activity, is determined and regulated on all sides by the movement of the machinery, and not the opposite. (Marx 1857/1973: 692-93)

Despite this reversal, however, Marx believed that capitalism does not promote automation in order to relieve humans of the burden of work. Rather,

[M]achinery inserts itself to replace labor only where there is an overflow of labor powers... It enters not in order to replace labor power where this is lacking, but rather in order to reduce massively available labor power to its necessary measure. Machinery enters only where labor capacity is on hand in masses. (ibid: 702)

And not only that, the development of technology "forces the worker to work longer than the savage does, or than he himself did with the simplest, crudest tools" (p. 709). This apparent contradiction is inherent to the working of the capital. The desire of capitalism to increase productivity through automation, on the one hand, and its dependence on massively available labor, on the other, gives rise to a paradoxical situation where capital, "despite itself, [becomes] instrumental in creating the means of social disposable time... and thus to free everyone's time for their own development" (p. 708). It is this contradiction that, according to Marx, drives capital towards "its own dissolution as the form dominating production" (p. 700), ultimately preparing the conditions for the emancipation of labor from capitalism.

For better or for worse, both forecasts, as we know, have failed to materialize, but to different degrees and for different reasons. Despite Keynes's prediction, those of us who are lucky to have a full-time job still work 40, 50, even 60 hours a week without compensation for their extra hours; those who do not have full-time jobs sometimes have to work even longer hours, jumping from one job to the next, one task to the next, or, as has become recently fashionable to say, from one "gig" to the next, sometimes working as many as 80 hours just to get by (Covert 2018). Not only that, even the "lucky" ones are in constant fear of losing their jobs and their livelihood, as recent polls and surveys have indicated again and again.

Marx's analysis is, therefore, closer to the mark when it comes to the effect of automation on the intensity of work within a capitalist system. His optimism that this would ultimately lead to the demise of the system, however, proved to be misplaced. Despite Marx's prediction, the contradictions of capitalism have not led to its downfall *yet*. Rather, the capitalist system has shown a great degree of resilience in recuperating itself, turning its contradictions and their attendant crises into opportunities again and again.

In brief, Keynes and Marx both shared a distaste for avarice, usury, greed, and the "love of money," and there were elements of utopia in their visions. But neither of them perhaps recognized the strong appeal of these "vices," and the flexible character of capitalism to reinvent itself in maintaining them. They differed in how they thought about capitalism, about the utopia within or outside of it, and, more importantly, in how to accomplish it, but they both held an optimism that drove their visions of the future.

At the current moment in human history, we now find ourselves asking similar questions, perhaps with a stronger intensity because of the rise of computers. This essay is an attempt to capture this moment through a political economy lens — in particular, the relationship between human labor and economic value. Beginning with a brief discussion of the so-called "automation anxiety," we introduce "heteromation" as a new mechanism of value extraction on the basis of which we develop a scheme for the varieties of human labor that produce economic value in work and non-work environments. We then describe our method, and apply it to a historical sketch of the conditions that have brought us here, as well as possible future scenarios that might unfold depending on policies and scenarios. We end with a reflection on the original insights of Keynes and Marx, especially in regards to the current situation of labor.

2. From Technological Unemployment to Automation Anxiety

Recent developments in Artificial Intelligence (AI), robotics, machine learning, and other related technologies have given rise to an extensive conversation about the "future of work." A good part of this conversation is focused on what is called "automation anxiety." There are different ways of illustrating automation anxiety, but one common form that can be frequently found in

the pages of newspapers, technical reports, and policy papers looks like the graph in Figure 1, which was part of a report recently published by OECD (Nedelkoska and Quintini 2018).

The idea behind this graph is that certain professions are at a higher risk of automation than others. If you work in the food preparation industry, for instance, according to this analysis you are more than 60% likely to lose your job to automation over the next decade or two, but if you are a teacher that probability is below 30%. And then there is everything in between.

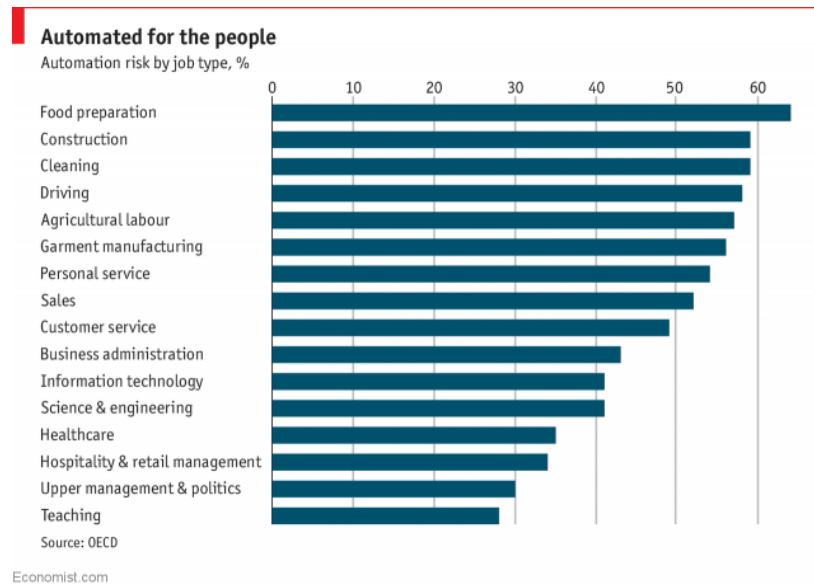


Figure One: Risk of Automation by Profession, OECD (in Nedelkoska and Quintini 2018)

The OECD study forecasts that 14% of jobs across 32 countries are highly vulnerable, meaning they have a probability of 70% or higher to be lost to automation, while another 32% have a risk between 50% and 70%. This translates to about 210 million jobs across the 32 countries with, of course, great variation across countries.

Futurist forecasting is a tricky business, as we have seen in the case of great thinkers such as Marx and Keynes, so there are good reasons to be skeptical about the accuracy of forecasts such as the one by OECD. To see why, we take a closer look at some other trends in the labor market. One such growing trend is toward what labor economists call “alternative work arrangements” which include temporary help agency workers, on-call workers, contract workers, and independent contractors or freelancers. Rather than a minor trend, this type of work has gained a lot of traction in recent years. Between 2005-2015, the percentage of American workers in AWA rose from 10.7 to 15.8 (Katz and Krueger 2016). In other words, *95 percent of the net employment growth in the U.S. economy was in alternative work arrangements—that is, 8.6 out of 9 million jobs*. Similar trends have been observed in other countries. Of the 150,000 new jobs created in

Denmark 2012-2017, for example, 44% were part-time jobs with 20 working hours per week or less, despite its strong unions and its long history of social contract between employers and employees (Marton et al. 2018).

These numbers reflect a persistent trend toward new working arrangements but also toward new modes of wealth creation in contemporary capitalist economies. How can we explain the relationship between these seemingly disparate phenomena?

3. From Automation to Heteromation

One part of the answer has to do with computing technology and the way it has developed in the last few decades. This development has redrawn the division of labor among humans, and between them and machines, in very deep ways. Ekbia and Nardi (2017) identify three stages of such development: automation, augmentation, and heteromation.

Briefly, automation is an arrangement that seeks to take humans out of the loop. An Automated Teller Machine (ATM), for instance, does this by taking the human teller out of the interaction between the customer and the bank. While this works some of the time, it doesn't work all the time—bank tellers are still needed for many types of transactions. Actually, there is an inherent paradox in automation in a capitalist economy because, as Marx argued early on, capitalism cannot do away with human labor. Despite the desire of capitalism for full automation, and despite all the “troubles” that human laborers might involve for capitalism (boredom, illness, idleness, vacations, not to speak of unions, strikes, and walkouts), capitalism needs humans as producers of value and as consumers of products. Caffentzis (2013, p. 72) remarks, “[T]he capitalist class faces a permanent contradiction it must finesse: (a) the desire to eliminate recalcitrant, demanding workers from production, (b) the desire to exploit the largest mass of workers possible.”

This is a very basic insight brought by Karl Marx which has been proven to be accurate again and again, and it is important to understand it correctly. There is a difference between economic oppression and exploitation in that exploiters depend economically on the exploited, but an oppressor does not. European settlers in North America, for instance, *oppressed* but did *not* exploit the natives—hence, the repugnant folk expression of the 19th century: “the only good Indian is a dead Indian.” The only good worker of industrial capitalism, by contrast, is not a dead one but a productive one (Wright 1995). Current capitalism, by the same token, has invented ways to extract benefits from labor without explicit forms of oppression.

On this basis, one can argue that full automation is never going to be realized in capitalism. In other words, the notion of, for example, the “lights-out factory,” examined by science fiction

writer Philip K. Dick in his short story “Autofac,” is merely a dream. In the 1970s-80s we observed a turn toward augmentation in computer technology, in particular with the emergence of personal computers and their productivity-enhancing powers. Even now, despite the proliferation of mobile devices, ordinary desktop and laptop computers are still mainstays in office work, manufacturing, and much else, both providing lucrative markets for wealthy companies and drawing labor from the multitudes.

The augmentation approach was advocated by early pioneers of computing who referred to it as man-machine symbiosis, and it eventually led to the creation of the Internet and subsequently Web 2.0. But then we got to a new situation at the turn of the century which adds another dynamic to both automation and augmentation. We call this “heteromation” for two reasons: first, it is a labor relation that extracts value from uncompensated human labor for the benefit of *others*—typically, but not always, business corporations. Second, it puts humans at the margins of the machine, so that they do what machines cannot do (or could only do with difficult, expensive software programming that would not be cost-effective). While in automation machines did what humans did not do with ease and efficiency, in heteromation it is the opposite. Put differently, the human *others* are doing much of the work, while machines are given the credit. These “others” include a broad range of people in various roles and positions — for instance, users of modern computing technologies such as search engines and social media; gamers and designers whose creative labor is often used without compensation in support of gaming platforms; graphic designers who submit work to design contests; ordinary customers who find themselves doing the job of former paid employees in the name of “self-service” (Ekbia and Nardi 2017). A recent example of heteromated labor is “kiwibots,” that is, mobile robots that deliver fast food to students on the UC Berkeley campus. One might expect that a “robot” would find its own way using clever AI, but “Kiwibots do not figure out their own routes. Instead, people in Colombia, the home country [of the company’s founders], plot waypoints for the bots to follow, sending them instructions every five to 10 seconds on where to go” (Said 2019). And restaurant workers take food to meeting spots on campus so the robots don’t have to go too far (ibid.). The “auto” of automation, which has the connotation of an autonomous “self” or machine has been replaced by the hetero (“other”) in heteromation in two ways: labor by the other and benefit to the other.

Ekbia and Nardi (2017) describe the key attributes of heteromation. First, it works on a logic of inclusiveness in the sense of universal participation regardless of status. Whereas earlier eras of capitalism were largely marked by exclusion, the current era brings people into the fold by including them in various types of computerized networks, and giving them a strong sense of belonging. To use a statement by Facebook’s Mark Zuckerberg, this inclusionary logic tells people that the more they put into the networks the more they get out of them. In reality, however,

people end up giving much more than they receive. Zuckerberg did not add that the more people put into online social network activity, the more *he* gets out of *them*.

Second, and perhaps most illusively, heteromation often takes a quasi-voluntary form that locks people into systems and platforms, the most famous and ubiquitous example perhaps being Facebook. People feel they cannot be without it, yet often they actively dislike it, taking “vacations” from Facebook, and otherwise attempting to remove themselves to the extent possible.

Lastly, heteromation extracts value in an invisible way, giving people the impression that they are included, that they are part of the game, that we are all in it together. But the bulk of the benefits of participation goes to a small group of people *if we consider the vast fortunes made with heteromated labor*. We produce valuable personal data. These data are sold and used to place advertisements to sell products, to determine insurance premiums, design new products, and refine existing products. Data collection is the most talked about part of the way everyday digital activity contributes to bottom lines, but just as important, we also conduct—with little or minimal compensation—work-like tasks: writing product reviews, “serving” ourselves in banks and airports, writing software modules in open source platforms, disambiguating images, “modding,” (creating software programs to modify and extend games), and other uses of unpaid labor of gamers (Postigo 2003; Kücklich 2005; Kow and Nardi 2009; Nardi 2010). We build virtual communities, create YouTube videos, write political essays, comment on the news, and contribute prose to forums that keep people interested and engaged—all of which results in abundant profits for corporations.

In sum, heteromation has provided a new logic and mechanism for wealth accumulation. This logic is different from exploitation in the sense that it is normally understood and theorized through narrow interpretations of Marxist theory (e.g., Fuchs 2012; see Ekbia 2016). That doesn’t mean that waged labor and classes have disappeared; capitalism is still a class-based society. What has changed are class formations, which have now taken a “network” form. *This also means that computer technologies not only save labor, but they also create labor for humans*. The kiwibots and their network of mappers and restaurant workers attest to this. More broadly, nearly anyone with a computer engages in heteromated labor on a daily basis; we certainly spend more hours now than in the past with technology. While what we do doesn’t always look like “work,” we are in fact producing economic value.

3.1. The Process of Subsumption

The brief historical trajectory that we provide above — from automation to augmentation to heteromation — is based on how labor has been divided between humans and machines since

the advent of digital computers. To understand how these relate to each other, we need to provide a brief theoretical understanding of the proposed scheme.

First, we think of these not as temporal stages but as “moments” in the Hegelian sense of the term, which can be a partial aspect, a part, or phase of a whole but not *necessarily* a temporal stage. If we consider humans and machines as a whole (what is sometimes referred to as a “socio-technical system”), then, automation, augmentation, and heteromation represent different *moments* of this totality. This does not mean that these replace each other in temporal succession; rather they *subsume* each other.

This leads us to the second key notion of this scheme — namely, “subsumption.” Hegel used this notion (*Aufhebung*) in thinking about both things and concepts, but Marx extended it to the processes through which capital takes labor under its control. To that end, he made a distinction between “formal” and “real” subsumption:

Historically, in fact, at the start of its formation, we see capital take under its control (subsume under itself) not only the labour process in general but the specific actual labour processes as it finds them available in the existing technology, and in the form in which they have developed on the basis of non-capitalist relations of production. It finds in existence the actual production process — the particular mode of production — and at the beginning it only subsumes it formally, without making any changes in its specific technological character. Only in the course of its development does capital not only formally subsume the labour process but transform it, give the very mode of production a new shape and thus first create the mode of production peculiar to it.” (Marx1861-63).

Formal subsumption, in other words, takes control of labor without changing the mode of production. Real subsumption, on the other hand, transforms the organization of production and the economy in general so as to enable and accommodate technological change. The move from formal to real subsumption under capitalism is, therefore, largely a matter of technological development.

In our scheme, automation, augmentation, and heteromation can be understood as different moments in this transition from formal to real subsumption. Each of these moments does not replace the previous one, rather it subsumes it in a move toward a totalized system of value extraction. Augmentation subsumes automation by reskilling those who have been driven out of earlier arrangements, turning them into the ensemble of engineers, technicians, data analysts,

etc. who are needed to organize, manage, and make sense of the products of automation. Heteromation, in turn, subsumes both automation and augmentation by bringing the army of reskilled, connected, and engaged citizens into the “network” in order for them both to support the ensemble of augmented technicians *and* to create value through their previously untapped forms of labor. What is new here is that the transition does not only apply to waged labor and industrial production (which was within the purview of Marx in 19th century) but to human labor in general and in the varieties that we outline below.¹

3.2. Heteromated Labor as a Variety of Human Labor

To appreciate the extent and scope of the economic value of heteromated labor, it is imperative that we distinguish between different varieties of human labor from a political economy perspective — that is, in terms of the economic value created. At the highest level, we should make a distinction between, on the one hand, “labor” as a broad capacity of human beings, and, on the other, “work” as the specific form of labor that is compensated through wage, rent, or other forms of payment. Work itself consists of four broad types in the current economy: waged, alternative work arrangements, gig work, and self-employment. Distinctions between some of these categories — in particular, between gig work and self-employment — have become more fluid than in the past, giving rise to social and legal debates over their boundaries (Rani and Berg 2018). While waged labor still remains a key form of work, it is increasingly supplemented and/or replaced by other types of labor such as alternative work arrangements and gig work, as well as by various forms of labor contributed by uncompensated labor of users of modern technology. A study by JPMorgan-Chase (Farrell et al. 2016), for instance, found that 0.9% of adults in the USA participate in the online platform economy — 0.5% on labor platforms of the gig economy (e.g. Uber, Taskrabbit) and 0.4% on capital platforms, leasing or selling their assets (e.g. Airbnb, eBay). Importantly, these numbers are the result of remarkable growth, which reached the 400% mark in late 2013 and most of 2014 before it slowed down to 102% in mid-2016. However, such growth is counteracted by high turnover rates; around one in six participants is new in any given month, and about 50% of participants exit within 12 months. Similar trends have been reported in Europe, with an average of 10% of adults providing some kind of service through an online platform (European Commission 2018).

An equally significant amount of economic value is created in areas that are not traditionally recognized as work environments. The classic example of this is domestic labor — the labor typically provided by women in the domestic environments of households, needed for the

¹ Our account of subsumption here has affinities with Hart and Negri (2017) who consider these developments as extraction of value from “the commons.” We do not have the space to discuss the overlaps and differences between the two accounts here.

reproduction of other kinds of labor. The value created by domestic labor is often not recognized in official accounts and statistics, but that does not diminish its real economic value (Federici 2012). Modern technology has added other types of value-creating labor provided by users of computing technologies that we broadly refer to as heteromated labor.” These varieties of labor not only contribute different forms of value that go beyond traditional labor theory of value, they also involve different social roles and different forms of relation to modern technology.

The ubiquity and scale of the labor that produces these varieties of value are stunning. Literally all over the globe, at virtually any moment in time, someone—many someones—are engaged in productive labor, whether it be in search, social media, video gaming, writing reviews for products and services, creating valuable data through devices such as FitBit, and the other endless quotidian tasks we undertake within a multitude of computer platforms and applications. Billions of tiny moments of labor add up to the immense wealth and power of companies such as Google, Amazon, and Facebook—wealth and power that are difficult to calculate, and near impossible to regulate in the current policy and political environment. The fine imposed by the European Union on Google in July 2018, for example, amounts to less than 5 percent of the net *cash* Google has on hand (Gallagher and Wilmot 2018). Other companies also profit, from start-ups to robust corporations that are not quite at the level of the tech giants, but still wealthy.

3.3. Varieties of Heteromated Labor

The varieties of heteromated labor that produce value in the current economy is on the rise, starting with communication (Ekbia and Nardi 2017). This is the first time in history when the very substance of people’s private communications has turned into an asset for corporations—data is the “new oil.” Facebook’s one billion participants, according to a major consulting firm, have become “the largest unpaid workforce in history” (Beyer and Laney 2012). A few figures might put this into perspective: Between 2008 and 2013, Facebook membership grew from 300 M to around 1 billion. In the same period, its revenue went from \$300 Million to \$4 billion dollars. Similar figures can be found for Twitter, LinkedIn, and other social media outlets.

Another type of heteromated labor takes place in the form of self-service when, for instance, you check your own groceries or check in at the airport. These were jobs that people once got paid for, and now they are done by end users in the name of “convenience.” Some banks have moved their tellers away from service counters so that people get used to interacting with machines. Then we get to the growing phenomenon of labor platforms such as Amazon’s Mechanical Turk, where skilled and educated people perform tasks for very low pay and no benefits and job security, while platform owners such as Amazon make immense amounts of money in the process (Irani and Silberman 2013).

A third type of heteromated labor draws on people's creative capacities. Gaming companies have literally outsourced the documentation and training of their products to gamers (Nardi 2010). Gamers perform many other functions too; in one case, they were asked to take charge of dispute resolution through a mechanism called "The Tribunal" in order to quell "toxic behavior." The game's young, male population was sabotaging games, using hostile and excessively crude language, and displaying negativity in a venue that is supposed to be fun. Crowdsourced judging of "cases" was implemented as players reported toxic incidents. Players could sign up as voluntary judges, providing the free labor to discipline errant players and establish community norms (Kou and Nardi 2013).

A fourth type of labor is manifest in people's affective and emotional engagements with technology. The so-called social robots such as Paro, a robot in the form of a stuffed animal, are claimed to have a therapeutic role in senior care facilities, because the elderly enjoy interacting with them. But close studies have shown that it is, in fact, family members and professional caregivers who make the robots function by encouraging interaction—an extra but unrecognized component of work for family and workers, and completely uncompensated for caregivers despite the fact that they learn and deploy new professional skills in order to work with the technology (Ekbia et al. 2015).

These varieties of heteromated labor are distinct from each other on a number of dimensions. First, they each draw on a different set of human skills and capacities. While communicative labor draws on various modalities of communication among humans (spoken, textual, electronic), creative labor taps into human cognitive and inventive capabilities, and affective labor invests on our capacity to feel, care, and empathize. Second, these varieties of labor use different incentive mechanisms to engage and keep people in computerized networks of interaction — all the way from convenience, stimulation, and entertainment to social connection, self-expression, and altruism. Lastly, different techniques and mechanisms are used in order to keep people engaged in computerized networks of interaction. Communicative labor is often delivered on modern social media, cognitive labor in creative activities such as gaming and design, affective labor in situations of care and support, etc. Many of these might overlap in reality, but the distinctions remain useful both analytically and practically.

3.4. The Method of Heteromation

Heteromation, broadly speaking, belongs to the realm of political economy; its method, therefore, is the method of the latter. Political economy, as Karatani (2017) points out, is a science that strives to uncover the invisible, to reveal the unknown, to demystify the mystical. Karl Marx, perhaps more than any other political economist, exemplifies this method — in

particular, in his treatment of the extraction of surplus value from waged labor in capitalism. His method, as such, is *multi-layered, relational, and dynamic*.

Marx engages in abstractions, starting from surface observations to find deep concepts — for instance, he starts with concrete examples of labor (of a shoemaker, say) and arrives at the abstract notion of “socially necessary labor time.” His dialectic method is multi-layered, consisting of a “method of descent” and a “method of ascent.” In the former, he moves from the immediate surrounding reality to find ever deeper concepts; in the latter, he used those concepts to work his way back to the surface. Harvey describes this as “onion-like,” as opposed to the “brick-by-brick” method of empiricism. With “money,” for instance, rather than taking it for granted, Marx explains it through the concept of “commodity.”

Marx’s method is also relational, in the sense that he deals with relations among concepts and phenomena, not with stand-alone principles. His treatment of concepts of “commodity,” “capital,” “labor,” “value,” “wage,” and “profit,” for instance, can only be understood in a holistic way and in the relationships among these concepts. Lastly, Marx’s method is not structural and it is not static (despite the common misperception of a “thesis-antithesis-synthesis” triad); it is about change, process, and flow— it is dynamic. He understands “capital,” for instance, as a flow, in the same way that he understands “value” as socially and historically specific, and not as a universal attribute of things.

To understand heteromation, we need to follow a similar method. We need to start with observations of daily life (people flooding social media, waiting in self-service lines, or creating mods for online games, and so on), and work our way into the incentive mechanisms that invite, nudge, or manipulate people into these kinds of behavior. Once we have identified such mechanisms (e.g., social, emotional, professional), we can work our way back and ask why corporations encourage these behaviors: What is in it for them? Why are they interested in our data? Why do they provide services “for free”? How have they amassed the amount of wealth they have, given that they do not apply any fees? Why do they make it hard for people to understand the flow of their own data, let alone take ownership of it? And so forth and so on. It is only then that we can see the relationship between these services, those behaviors and incentives, the data collected, and the wealth created.

In a similar fashion, we also have to think about all of these as dynamic processes that have emerged historically. The discussion in the next section demonstrates this briefly.

4. How Did We Get Here?

Capitalism, as we mentioned earlier, is an innovative and flexible system that continually reinvents itself. Glyn (2006), for instance, describes how capitalism turned the crisis of 1970s into its own advantage through the decline of labor unions and the bargaining power of labor, along with privatization, financialization, and reduced state spending. Boltanski and Chiapello (2005) examine the development of the “spirit of capitalism” from a broader purview, especially in terms

of the relationship between labor and capital. This capacity for reinvention is the key to capitalism's resilience, which surprises and frustrates its critics. A cyclical pattern is discernible in this process, where every new reinvention gives rise to new problems and crises, which in turn lead to people demanding change. In the aftermath of the Second World War, the New Deal in the U.S. and similar measures elsewhere proved effective in stabilizing capitalism by ensuring at least some measure of old-age security as well as by providing jobs through programs like the Works Progress Administration. More recently, capitalism has supported societal improvements in the form of social freedoms such as disability rights, gay rights, and relaxed gender norms.

However, at the same time, capitalism scarcely responds to all demands, and has taken a remarkably hard line in its own favor economically. The fortunes of the 99% are in decline while those of the 1% continually improve. Unemployment is currently low in the U.S., but many jobs provide no benefits or job security. There is an increasing shift to part-time work (which usually does not pay benefits) and contract work (which does not pay benefits).² Some workers put together more than one part-time job to achieve a sufficient income. Metrics such as income inequality, rates of opioid addiction, and environmental degradation that disproportionately affect the less powerful, show clear trends toward increasing economic polarization and distress.

During the 1960s and 1970s consumerist society was critiqued as environmentally ruinous and socially vapid, lacking authenticity and interest. These sentiments are perhaps captured most iconically in a few lines from Allen Ginsberg's poem "Howl":

I saw the best minds of my generation destroyed by madness...
What sphinx of cement and aluminum bashed open their skulls and ate
up their brains and imagination?

Commentators such as Ralph Nader challenged corporate irresponsibility, pointing out the potential dangers of consuming products made by American companies. Universities hired at least some radical faculty (like Noam Chomsky and Angela Davis) who were influencing students in their formative years, asking them to confront and critique conventional ideas and institutions.

These developments did not go unnoticed by business interests which systematically undertook a program to counter what they rightfully saw as anti-business influences. An early bellwether of this program was the "Powell Memo," produced in 1971 by Lewis Powell, a corporate lawyer and board member of 11 corporations, who became a Supreme Court Justice a year later. The memo urgently declared that, "No thoughtful person can question that the American economic system

² See <https://www.bls.gov/news.release/pdf/ebs2.pdf>; <https://work.chron.com/fulltime-benefits-vs-parttime-benefits-18972.html>

is under broad attack.” It suggested practical advice—which has proved incredibly effective for business—specifically, broadly conceived programs of education, movement-building, and media influence. The memo was an important inspiration for the creation of think tanks such as the Heritage Foundation, the Manhattan Institute, the Cato Institute, Citizens for a Sound Economy, and Accuracy in Academe—groups that fed carefully packaged ideas straight to the media.

Crucially, the memo began to develop a rationale for the “hands-off” governance brought to fruition in the Thatcher-Reagan years. The Powell Memo is an early exemplar of the right wing’s use of extreme, inflammatory language, which, through repetition, becomes normalized.

The uptake of ideas such as those in the memo led to deregulation, privatization, and casualization of labor as corporate interests released themselves from the moral and financial burdens of worrying about their employees as persons. Individuals and households became the key units of risk management rather than companies, governments, unions, schools, or other organizations.

These momentous shifts did not just happen. The Reclaim Democracy! group notes that careful, deliberate, persistent, and visible efforts promoted an agenda of radical change with specific recommendations for “education, values, and movement-building” which were taken up in policy (Paul 2018). So, for example, productivity increased in the U.S., but workers’ compensation did not (ibid.). Corporations were not required to distribute their wealth more widely. Dominant narratives, emanating from Silicon Valley technologists and venture capitalists, tend to blame technology for these trends. Paul notes, however, that growing income disparity has everything to do with policy and little to do with technology: “[T]he winners and losers in an economy are determined by the rules and institutions that govern it. If capital today wields more power over labor than it did in the past, that is because of public-policy choices, not technology.” The current juxtaposition of low unemployment in the U.S. with increasing automation indicates that automation is not destroying jobs.

The outcomes of policies such as deregulation and privatization became gradually evident, giving rise to a heavy debt crisis for individuals and communities, a polarized economy, the financial bubble of the early 2000s, and, ultimately, to the Great Recession of 2008. The capitalist system tried to manage this first through austerity policies that put the blame of miscalculated and misplaced loans on individuals, and then, more recently, through protectionist policies that put the blame on immigrants, on “other” countries, and, on technology.

There are strong indications that we have entered a major new reinvention of capitalism, where the majority of the public is producing value for corporations through “voluntary” computer-mediated contributions that are not even thought of as productive labor. Computing has created

a situation where employees (including managers) must be available 24/7, where experiential boundaries between work, life, and leisure have become very blurry. While regulatory steps have been taken in Europe to keep these in check, the U.S. policy environment is yet to see any such initiatives.

In short, the changes seem to be significant enough to suggest the emergence of a new logic of technology-mediated capital accumulation—not in the form of automation which is usually how the story is told—but through the domination of heavy digital networking and global platforms within which it has become normalized to be online and engaged 24 hours a day, seven days a week. While the narrative of automation is about fear of inactivity, the reality is that we are glued to our cell phones and computers, *working* all the time!

5. Where We Might Go From Here

These observations, along with other economic, political, and cultural changes around the globe, might suggest a gloomy future with no way out. As a matter of fact, however, various future scenarios may unfold, depending on the collective will and actions of people, especially laborers and their organizations around the globe. We would like to explore three such scenarios here, with the intent of opening the conversation and hopefully the horizon of possibilities for the future.

5.1. The Capital-Friendly Scenario

Unless concerted pushback against the business-friendly ideas germinated in the Powell Memo takes place, its ideas will continue to flourish. There is simply nothing at the moment to stop the trends and the ideas it ushered in. They continue to be fed through well-staged neoliberal programs of education, movement-building, and media without sufficient countermeasures from progressives. In the U.S., for example, there are fewer progressive think tanks, radio stations, and news outlets than conservative counterparts have established. Jeff Bezos's purchase of the venerable *Washington Post* symbolizes the loss of once-strong independent media. Rupert Murdoch in Europe has a firm grip. In the U.S., legislation and Supreme Court decisions have whittled away at the strength of unions. Early promises of technological breakthroughs in democratization have not materialized (Hindman 2008). In fact, it could be argued that authentically different voices (such as Bernie Sanders's) are easily squelched by mass media. Within the capital-friendly scenario, we can expect to see the maintenance of the status quo, which is essentially the continued implementation of Powell's agenda. This agenda will deepen trends in computer-mediated labor that we discussed above, extracting economic value from labor but unmooring workers from rights and protections.

Capitalism has afforded some positive recompense in the form of the social freedoms. Many progressives rightly feel a sense of elation and victory at changes in the last 40 or 50 years, and the changes are certainly to be celebrated. A recent book on the relationship between capitalism and democracy highlights this very point, arguing that capitalism thrives under democracy and, hence, cannot subvert it (Iversen and Sockice 2019). But the historical record in this regard has been mixed at best, as class relations still lie at the heart of the global problems so resistant to change. To the extent that people remain afraid to speak of social class, or are uninterested in doing so, fundamental problems will not be addressed within the capital-friendly scenario.

The narrative of automation as job-killer is one way capitalism hides the realities of social class. When people fear loss of employment, they are more willing to take whatever they can get. Notions of solidarity and collective action appear remote, even impossible. The automation rhetoric obfuscates the fact that gains of improved productivity have not been shared with workers. The increase in benefits-free jobs lacking security and dignity goes hand in glove with repetition of the mantra that automation destroys jobs.

5.2. The Compromise Scenario

A second scenario might unfold in different parts of the world on the basis of what can be described as a “politics of compromise” (Rustow 2015). In his close study of Swedish society, the liberal thinker Dankwart Rustow provides an account of the history of the country which he describes as follows:

Sweden in 1933 was entering the third phase of the cycle from inherited status to individualism to pluralism—a cycle which [it] had entered later but was completing more rapidly than other Western countries. Gradually the Liberals and the Conservatives were converted to the new conception of a social welfare state. (2015: 3)

Rustow attributes this transition to what he considers “that most fundamental yet most elusive quality of Swedish politics—the harmonious interplay of rival forces, the tradition of government by discussion and compromise,” suggesting that “Socialist-Agrarian cooperation set an end to a period of Liberal predominance” in Sweden (ibid). Although recent developments in Swedish politics might challenge the finality of Rustow’s prognosis, they do not undermine the premise of his argument about the efficacy of “the politics of compromise.” There are, in fact, good reasons to believe that the model of compromise has largely survived recent political upheaval around the globe. In Sweden, but also in a number of other Nordic countries, and in Austria, union

membership is over 60%. This is largely because union rights are given priority legally and culturally.

What about automation anxiety and its related effects in these countries? Journalist John Goodman reported that in Sweden workers do not worry about automation—they believe that their unions and companies will look out for them (2017). If robots and other forms of automation increase productivity, workers will share in the gains, as they have historically through programs of social welfare. Swedish workers do not see automation as destroying jobs. Workers believe that they will find other jobs if their current job is automated, and that they will receive appropriate training. They believe that they will be supported through periods of unemployment (*ibid.*).

These attitudes contrast sharply to those of Americans, the majority of whom *do* worry about losing jobs to automation. The Pew Research Center found that 72% of Americans were concerned that “machines might do many of the jobs currently done by humans” (Smith and Anderson 2017). Technologies of automation are the same in the European countries and the U.S., but corporate and government policies vastly different. It is difficult to imagine the U.S. (and many other places) embracing unions in the manner of the Nordic countries and Austria, but it is important to keep in mind what is possible, and to understand the job-killer narrative for what it is—an outcome of policy, not technological change.

Even in the absence of high degrees of unionization, worker protections are heavily legislated in some other parts of the world. Canada, many European countries, (e.g., Germany), and Japan have sustained a strong safety net without high levels of unionization. The issue is not one of pure scale as is often argued, nor does everyone have to be in a union for policies sensitive to workers’ needs to flourish.

5.3. The Labor-Friendly Scenario

This takes us to the last scenario that can be understood as a labor-friendly alternative that is furthest from today’s reality. What exactly is a labor friendly scenario? Before we answer this question, let us first briefly discuss what it is *not*.

First, a labor-friendly scenario is not totally reliant on education of the workforce. Ideas such as re-education and reskilling have been shown to not *necessarily* lead to improved wages and well-being of workers, especially in the US where higher education has turned into a source of heavy loans but not better income. We often hear that training and education are key as jobs change (e.g., Brynjolffson and McAfee 2011). But Paul (2018) notes that, “[Education] reforms...would

not change the fact that gains from automation have largely bypassed workers for decades.” We certainly support free education and believe that an educated populace is crucial for a better society, but labor-wise, if jobs are shifting to alternative work arrangements, heteromated microwork, and gig work such as that done by Amazon Mechanical Turkers and Uber or Lyft drivers, education beyond the basics is not of much value. “Gig economy” jobs do not require it.

Second, a labor-friendly scenario is not necessarily growth-based. Economic growth does not translate into benefits for labor. As understood by neoliberal thinkers and measured even by their own biased metrics, growth in the last few decades has largely benefited the wealthy. One common metric relates to the creation of value in the current economy. The so-called Marginal Revolution in economic thought replaced the classical labor theory of value with a subjective value theory of market prices, which takes value to be in the eye of the beholder, confusing price with value, rent (unearned income) with profit (earned income), and wealth with innovative capacity. As economist Mariana Mazzucato (2018) points out, “We assume that, as long as an organization or activity fetches a price, it is generating value.” This thinking, she adds, “reinforces the inequality-normalizing notion that those who earn a lot must be creating a lot of value.” Nothing could be further from truth.

Third, a labor-friendly scenario is not based on austerity for the poor and low taxes for the wealthy. Despite conservative and neoliberal propaganda, robust government spending is a crucial element of a healthy economy. Taxation is thus a necessary remedy to the ills of current economy (Piketty 2014). People are vulnerable as conventional jobs with benefits disappear, yet at the same time, automation and heteromation are improving productivity and profits. More equitable schemes of taxation are not only essential and just, they are needed for the state to fund basic research whose outputs are freely available (Paul 2018). It is through such means that companies like Google exist at all; not only was the Internet produced by the U.S. government, but NSF-sponsored Digital Libraries Initiative research formed the backbone of Google’s early technology. Elon Musk, similarly, has not only benefited from \$5 billion in subsidies from the US government, his major enterprises, SpaceX and Tesla, have been built, respectively, on the work of NASA and the Department of Energy.

With these preliminaries, we can now sketch the outlines of a labor-friendly scenario based on principles of liberty, social justice, and sustainability. These principles have come under severe attack in the last few decades, all in the name of market freedom, public choice, and growth. To revive and implement them, therefore, we need serious reversals in current trends—a daunting but not impossible undertaking, as we will argue.

First, in regard to liberties, the experiences of the last few decades have shown again and again that markets left to their own devices produce runaway economies that regenerate crisis, enhance inequality, undermine people's wellbeing and security, and destroy the environment. *A labor-friendly approach should put a leash on markets and their tendency to encroach on all aspects of life.* One obvious component of this would be oversight and regulation—not of the kind that puts matters in the hands of bureaucrats, but in the hands of communities and their councils.

While the idea of governing by people's councils might sound far-fetched in the current cultural environment, it has been practiced for a long time in different parts of the globe. From the autonomous city-states of Ionia in ancient Greece, the Jeffersonian townships of early America, the *communes* and *soviets* of the French and Russian Revolutions, to the Icelandic commonwealth and Israeli kibbutz, communities have demonstrated the effectiveness of this form of self-governance again and again. Even in the case of the USSR experience, triumphalist accounts of capitalism shouldn't blind us to the early accomplishments of people's soviets. The Japanese historian and philosopher Kōjin Karatani (2017) has recently revived this history in his account of "isonomia—a form of "no-rule" that is older than Athenian democracy and superior to it in that it allows the simultaneous achievement of liberty and equality. Through accurate historical analysis, Karatani demonstrates the practical possibility of a kind of society that "involves the recovery on a higher dimension of relations of reciprocity and mutual support, long after such actually existing societies were disintegrated by the rule of the state and the incursion of a money economy" (2107: 136).

Second, in regard to social justice, this type of arrangement will also put modern technology in the service of the wellbeing of people and communities rather than the current situation where the fruits of our collective ingenuity serve the interests of a very small number of superrich individuals (Piketty 2014, Ekbias 2016). Commentators such as Kathi Weeks (2011) and Bob Black (1986) have questioned how, under regimes of capitalist discipline, we must work in order to achieve moral standing. With respect to heteromation, we suggest that compensated, computer-mediated labor might begin to alter the idea that a 40-hour-a-week job is the basis of propriety and respectability. Heteromation would give way to fair and just computer-mediated labor. If systems such as Mechanical Turk were to return a fair wage and offer worker protections and inputs to decision making, they would be a step toward materializing the "electronic cottage" with its promises of autonomy and deliverance from the alienations of cubicle life. Working at home on modular tasks tempered by a flexible schedule could benefit many: those engaged in childcare, eldercare, sick care, the disabled, the chronically ill, and others for whom full-time employment outside the home is undesirable or impossible. These groups tend to be overlooked

by unions and governments, but as populations age, and with a rise in chronic disease at many ages, these populations are increasingly important.

The electronic cottage would probably require a basic income so that workers would not be driven to self-exploit and would enter employment relations in a relaxed, productive manner. Questions of basic income should not be posed as “either-or” as they often are. There is no reason a basic income cannot be coupled with flexible, autonomous, paid work arrangements. The current economic value of heteromated labor suggests how much work we are already doing outside conventional work settings—the task now is to find ways to compensate it.

Unfortunately, at the moment, the key exemplar of paid heteromation—AMT workers—typically earn far below the U.S. minimum wage. Silberman et al. (2018) advocate that wherever microwork is conducted, it should meet or beat the local minimum wage (see also Berg 2016). Employers should understand that human beings are doing the work: “Some platforms prime clients to expect cheap, ‘frictionless’ completion of work without oversight, as if the platform were not an interface to human workers but a vast computer without living expenses” (Silberman et al. 2018). Plans for electronic cottages in any labor friendly scenario must address worker rights—a concern which is, again, a function of policy, not technology. Paul observes that “[W]hereas many private-sector players are using [techniques of automation] merely to extract rents, such as through digital marketing, this powerful technology could just as well be used to reduce the incidence of work injuries, improve job quality, and raise living standards” (2018). The right policies could steer us in more beneficent directions.

Third, a labor-friendly scenario needs to pay close attention to social and environmental sustainability. As such, it should detach itself from the “growth” thinking that dominates current policy and discourse around the globe.

In brief, the principles of liberty, social justice, and environmental sustainability that would drive a labor-friendly future have a real chance of effective implementation on a global scale if current hegemonic forms of thinking and governance are replaced by available alternatives.

The realization of each of these scenarios largely depends on the social and economic policies that are going to be implemented and pursued in the coming years and decades. Dominant narratives, emanating from centers of economic, political, and technological power, often portray technology as the key driver of change in modern societies. Such narratives tend to put human societies at the mercy of unknown forces of “disruption,” “growth,” and “progress” — usually as a combination of technology and markets — taking agency away from communities in dealing with their own affairs. In reality, however, the key driver of change is neither markets nor

technology; rather, it is social policy. As we briefly described above, a cursory comparison of the impacts of modern technology in different countries with different policy environments reveals this quite vividly. Accordingly, the realization of a labor-friendly scenario would largely depend on the types of social policies adopted by national and local governments, as well as by international governing bodies.

6. Conclusion

Forecasting is a notoriously tricky enterprise, putting to test the ideas of the most visionary thinkers such as Karl Marx and John Maynard Keynes. Starting with very different assumptions and premises about capitalism, labor, and technology, both made forecasts that have not come to pass. In particular, Keynes's idea of automation enabling a shorter working week has proved to be based on wishful thinking, resulting in the opposite reality of long work weeks. The introduction of computing into work environments has affected labor in different ways: low-skilled laborers are facing stagnant or declining wages with an increasing prospect of intensified work through computer-coordinated mechanisms, while high-skilled professionals might be cognitively augmented in carrying out their work, and mid-level workers face the risk of job loss through technologies of automation. The net effect of these developments on waged labor is the "hollowing out" of middle class, as observed in various societies, driving people to alternative work arrangements where they often find themselves in the role of entrepreneurs, drawing on their own personal assets, with all the attendant risks and rewards to this kind of economic activity (Berg 2016, Rani and Berg 2018). Gig workers, similarly, find themselves in the grip of the so-called platform economy, controlled by machines and managed by algorithms, the working of which they have little or no understanding of, and against which they have no recourse to legal labor protections (Hara et al. 2018). In brief, not only has the 15-hour week not materialized, for the majority of people almost the opposite has happened. Proposals such as universal basic income might be effective in getting some out of absolute poverty, but they will leave issues of labor rights, human dignity, and collective bargaining unexamined and undermined if put under managerial prerogatives (De Stefano 2018).

On the other hand, Marx's prediction of the dynamics of the capitalist economy leading to its ultimate demise has been met with a flexible and resilient system that has managed *thus far* to coopt the products of human ingenuity and innovation for the benefit of the few (Eckbia and Nardi 2017: chapter 3). Only history will tell whether and how this prophecy will materialize, but Marx was certainly closer to the mark when he predicted the continued alienation of workers from the labor process and from the products of their labor—aspects of capitalism that are still manifest in the so-called gig economy. From this perspective, it would be fair to say that Marx had anticipated the gig economy in its broad outlines, though certainly not in specific detail.

In the meantime, however, we believe that there is a sweet spot in pursuing the labor-friendly scenario outlined here. This scenario will inevitably include unions, but may need to go beyond them too. Just as the Powell Memo opened up change favorable to business with a broad agenda and a single, consistent message, change for labor will, it seems, depend on a broad, multi-platform set of techniques unified with a sharply worded common theme (like the “Attack of American Free Enterprise System” message that proved so effective at motivating the neoliberal agenda).

It might be useful to take a page from the Powell playbook in speaking frankly and forcefully, even when the ideas do not necessarily initially mesh with the larger culture. At the time Powell was writing, his ideas were hardly mainstream. Currently, ideas such as isonomia, the electronic cottage, and post-growth are putting forth unfamiliar notions about complex issues, yet also managing to open new conversations about where we are going with work, technology, and governance.

Labor advocates, and progressives in general, have perhaps overlooked the force of repetition when presenting unfamiliar ideas. Using conciliatory, middle-of-the-road language, the lineaments of big picture change dissolve. Such change seems to arise from sticking to a radical message and ceaselessly repeating it in varied venues. Antonio Roman-Alcalá, a post-growth theorist, observes that the “multi-stakeholder” processes beloved of progressives are detrimental to change. They inevitably work in favor of the powerful in forcing non-elites “to find a mid-point within completely unacceptable positions” (Roman-Alcalá 2017). The development scholar James Smith makes a similar observation about the current heterarchical model of governance, which, “rather than serving society as a whole, ... serves the fragmented and contradictory interests of particular social groups and individuals” (Smith 2009).

Lewis Powell noticed that if business was to get what it wanted, it had to go on the offensive, openly and vigorously opposing ideas and attitudes that were, at the time of the memo, taking root in universities, the media, and the broader culture. In the same spirit, we suggest that today’s labor movement, which involves the absolute majority of the global population, along with its allies among marginalized groups and minorities, should create an offensive, reviving those same strategies and energetic dedication to radical methods.

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