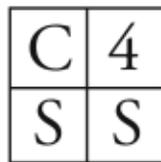


Scarcity and Abundance Under Anarchism

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INTRODUCTION

To what extent are contemporary systems of production and consumption compatible with the abolition of the state and authority in general? There are differing notions on how transitioning to a stateless society would affect the availability of the goods and services we currently produce and consume; from anti-civilization thinkers and primitivists who see statelessness as incompatible with technology, industrialized production and complex global supply chains, to transhumanists, who see anarchy as a path to increasing levels of bodily autonomy via technological innovation. It is my intention to explore this area in the following essay by evaluating the impact that anarchic, post-capitalist organizing might have on production and consumption, without making any explicit prescriptions on the content of anarchy.

The question posed above can be answered by considering the impact of internalizing costs in a transition from capitalism to anarchy, while holding technology constant. To do this, I delve into the distribution of costs under capitalism, how it is reinforced, and how this distribution might change in an anarchic, post-capitalist future.

Today, the vast majority of us are trapped in a one-sided dependency on structures propped up by structural violence such as the global supply chain, exploitative wage labor, and captive markets for our survival. As we unravel ourselves from these deeply ingrained networks, we create new possibilities and destroy others. It is impossible to perfectly plot out the trajectory this process might take, but we can analyze the effects authority has on our current society and imagine radically different possibilities.

ANARCHY VS THE STATE

Different types of social relationships are likely to have different sets of outcomes. Anarchism is a political philosophy that rejects all ongoing social relationships of authority, where one party has the right to give orders and another has the corresponding obligation to obey. Instead, anarchists favor reciprocity and the capacity for exit in social relationships. The outcomes of anarchy cannot be prescribed, because that would amount to a contradiction. In an anarchic framework, change flows from the bottom up, individuals and groups can freely associate with each other on their own terms, navigating a space with no mechanisms for top-down social control. Therefore, an anarchic society is generally permissive except in cases of normatively defined harm, where social control derives itself from distributed, peer-to-peer consensus.

On the other hand, the state, an institution with a monopoly over the use of violence over a given region, underpins a network of authoritarian relationships, and attempts to prescribe the outcomes of social relationships by taxing production and consumption and restricting individual action and the terms on which people can interact with each other, in order to benefit itself and its favored clients. Statism rests upon the concentration of power in a privileged class, whose interests are then imposed upon the population, creating a framework where a ruling class systematically profits at the expense of everyone else. This continuous process of exploitation

leads to gross inequality, mass surveillance, corruption, imperialism, colonialism, xenophobia, and war, amongst other things – the outcomes of authoritarianism.

Capitalist markets, this is, markets held captive by the state, systematically enable rent seeking as privileged classes accrue vast fortunes at the expense of workers, consumers, and the environment due to bargaining power vested in them by the state. This accrued wealth is based on and reinforces the power capitalists maintain over the working class. This power is exerted through a series of self-serving laws such as fixed title and deed over property, zoning restrictions, minimum capitalization requirements, patents, national borders, eminent domain, tax exemptions, corporate subsidies and bailouts, licensing, and limits on collective bargaining in the workplace.

THE CAPITALIST LANDSCAPE

The capitalist landscape is the content of capitalism. It is the prefabricated layout of cities, the homogenous suburbs, the neighborhood strip malls, the chronic 9-5 grind, the belligerent middle managers, the surveillance cameras on every street corner, the luxury hotels, the toxic rivers snaking through cities, the multinational mega-corporations, the thousands of varieties of food on our supermarket shelves, the flashing ads lining every street, the bustling airports, the sprawling office megacomplexes, the prisons, schools, and freeways; all features shaped by and designed to reproduce capitalism. We live in a world where American demand for cheese burgers can be satisfied through the destruction of rainforests and the violent dispossession of indigenous people for pasture. These are processes mediated by states, corporations, and individuals who stand to benefit from such exploitation. Multitudes of people have been deprived of their capacity to determine the conditions of their own existence, to create lives and relationships that they desire, so that a few can accumulate wealth and the power to turn much of social existence to their own benefit.

State imposed constraints on human activity govern social outcomes and the evolution of capitalist society over time. One evolutionary tendency reinforces the system; power, by design, accrues to those who set the social parameters, which are maintained by one-sided dependencies on capitalism, the normalization of certain epistemes, and the deployment of propaganda and violence.

These structures facilitate what cellist Fredy Perlman refers to as the "Reproduction of Daily Life," where we reproduce capitalism by participating in its institutions.¹ In more specific terms, our participation in society is mediated, constrained, and directed by authority, through a constantly adapting system of laws, social norms, and physical infrastructure, built upon a structural imbalance of power, where certain choices that threaten the hegemony of capital such as refusing to pay taxes, hacking, unauthorized migration, guerilla farming and organizing outside the purview of capital are made artificially expensive through marginalization, social sanction and imprisonment, while other choices such as following the law, conforming to cisnormativity, purchasing cars, using freeways and climbing the corporate ladder are encouraged and rewarded.

¹ Perlman, Fredy. *The Reproduction of Daily Life*. Camas Books, 2018.

While all social systems have mechanisms for social reproduction, under capitalism, this process cements the power of the ruling class, who accrue most of the benefits of profit maximization as material wealth, which is in turn utilized to reproduce the system through state intervention. Corporations do not just influence state legislation through lobbying and bribes, they have power because the economy is dependent on their activities. The interdependent nature of corporations and the state is a feature of capitalism, not a bug.

Naturally, the vast majority of us follow capitalist incentives, we operate a machinery that disproportionately benefits capitalists and other privileged demographics at the expense of others because we are dependent on it for survival. Capitalism operates a network of exchange that billions rely on for sustenance, which our day-to-day activity reproduces. Moreover, dissidence is reconstituted into the status quo, producing stabilizing incremental change. Stable societies have self-reproducing dynamics, which makes it harder to break out and develop new ways of organizing.

Under capitalism, workers and the environment disproportionately bear the costs of production and distribution due to systematized unequal exchange. This is enabled by state violence, ongoing and historical mass expropriation of the commons, imperialism, colonialism, segregation, nationalization, and various self-serving laws and institutions that give privileged groups a disproportionate share of the bargaining power in social arrangements. The resulting distribution of cost manifests as wages below the cost of living, poverty, depression and drug addiction, etc. Beyond the fluorescent lighting, shelves, and flashy logos in your local supermarket is a global and highly entrenched network of mass exploitation and human suffering established on this skewed power dynamic.

Here are a few basic examples. In an average workplace, labor market monopsony, the lack of a commons, and violent state intervention reifies the employer-employee relationship, limits collective bargaining, and keeps ownership fixed and centralized, allowing employers to pay exploitative wages, often below the cost of living. In the developing world, the means of production are auctioned off to multinational corporations by corrupt officials, resulting in the dispossession of locals and forcing them into wage labor under inhumane conditions. Profits aren't reinvested into local communities but siphoned to the Global North and disbursed through executive bonuses, stock buybacks, and dividends. Farmers in developing countries face monopsonized buyers and highly subsidized competitors, receiving artificially low prices for their produce, while a network of middlemen facilitates the movement of agricultural output to multinational commodity trading corporations, who profit from the huge price disparities between the developing and developed world. The final products exploit consumers through monopoly pricing, planned obsolescence and often ignore unprofitable consumer segments, composed of heavily marginalized groups.

These structures underpin consumption trends under capitalism, defined by the specific types, universal availability and sheer abundance of certain goods and services; from on-demand air-travel to iPhones, cars, selfie-sticks, motor fuel, thousands of varieties of imported clothing items and gold encrusted chicken strips. While the right-wing tends to critique the superficial qualities of modern consumption patterns as aesthetically gaudy, homogenizing and capable of

transcending defunct traditional structures, the real issue is that certain material excesses seen in relatively privileged communities, regions, and countries, are only possible because of economic rent extraction and environmental destruction in the developing world and low-income communities, mostly comprised of people of color. Furthermore, the material excess is only marketed towards privileged groups of people, consumer demand is selectively met under capitalism. The lack of bottom up accountability leads to closed source, unrecyclable goods that fuel endless cycles of consumption and waste.

Our collective consumption choices further reproduce the status quo when directed through the network of institutions that constitute capitalism, supporting businesses that exploit workers and the environment. Individual choices are not immaterial and contribute to changes in aggregate consumer preference, which have an impact on production. Consumer behavior is not only directed by increasingly subliminal and pervasive marketing, but mass exploitation, where certain consumption choices are made artificially cheap and abundant through the suppression of labor bargaining power and hence wages, and the externalization of environmental costs. Examples include meat, fossil fuels, most electronics, imported food, etc. all of which are directly and indirectly subsidized by the state.

Consumer behavior under capitalism is driven by more than just low prices due to exploitation, though; the state enforced centralization of technology and infrastructure, as described in detail by Kevin Carson in *MOLOCH: Mass-Production Industry as a Statist Construct*, has rendered us dependent on economies of scale and environmentally destructive goods like fossil fuels.² Our dependence on these modes of production and goods results in relatively inelastic demand, where the removal of subsidies or imposition of taxes ends up harming many people by forcing them to bear most of the tax incidence directly, or indirectly as increases in food and transportation costs. In other words, certain state-imposed "solutions" to greenhouse gas (GHG) emissions offset the costs of pollution onto consumers as regressive taxation, reducing their disposable income, while forcing them to continue to rely on fossil fuels; for example, the imposition of a fuel tax in France sparked the Gilet Jaunes (Yellow Vests) movement. At the same time, other groups may benefit, such as those whose water may be polluted by fracking. A generalized feature of almost all top-down, one-size-fits-all policy-making is that it utilizes a utilitarian logic, trading off some interests at the expense of others from a position of authority, in pursuit of a so-called "common good."

The physical layout of the world around us and the institutions we rely on are the accrued investment of generations of capitalism. Freeways, for example, are tax funded conduits for the redistribution of wealth from the working class to car companies and certain privileged corporations. These corporations rely on low distribution costs to clear their inventories and vast distribution networks over which to market goods and services, in order to amortize their high costs, crowding out more competitive, local, decentralized production.³ At the regional level, zoning, freeway construction, and concentrated production force people to travel long distances

² Carson, Kevin. *Center for a Stateless Society " MOLOCH: Mass-Production Industry As A Statist Construct*, <c4ss.org/content/category/symposiums-and-subjects/moloch-mass-production-industry-as-a-statist-construct>.

³ Carson, Kevin. "On 'Economies of Scale' and Other Magical Incantations." *Center for a Stateless Society*, <c4ss.org/content/33168>.

for work, requiring many to rely on cars. This reduces the labor mobility of those who cannot afford cars, which reduces their bargaining power and productivity, and cultivates monopsony power, which depresses wages and increases corporate profit margins. There are approximately 1.3 billion fossil fuel reliant motor vehicles in the world, many of which are both necessary for commutes and the transportation of goods we rely on to survive and a massive source of GHG emissions at the same time.⁴

At the national and international level, production is roughly segregated into a core and a periphery, where the former systematically exploits the latter through unequal exchange and environmental destruction. This system is built on monopsony buying power and the monopolization of natural resources by the state and corporations, necessitating continuous long-distance air and sea freight. Just as with cars, widespread air and sea freight are a central component of the global economy, with around 39 million annual flights per year. From aircraft manufacturing to the sourcing of fuels, the underlying structures that support existing air travel tend to be environmentally destructive and exploitative.⁵

An anarchic solution to issues like climate change would address them at the root cause, by unravelling dependencies that force us to rely on centralized, exploitative production and destroying or repurposing the infrastructure that subsidizes choices which externalize costs onto marginalized groups, in favor of bottom up, increasingly local organizing, where the allocation of cost is mediated between independent actors on a multipolar basis.

Having covered the tendencies in capitalism that serve to reproduce the status quo, we can now turn to other evolutionary tendencies within capitalism, ones that create avenues for systemic breakdown where disenfranchised, alienated, and economically deprived people devise more sustainable, horizontal networks and modes of production. Radical decentralization, alternative currencies, squats, solidarity economies, micro-production for use, renewed commons, permaculture, worker co-ops, platform co-ops, mutual-aid societies, free and open source technology, riots, and black markets erode away the monopolized commodity markets and monopsonistic labor markets that define capitalism.

Horizontally managed enterprises regularly outcompete hierarchical firms. The existence of management is immensely costly due to 1) administrative overhead associated with management, 2) the risk of calamitous top-down decisions, 3) conflicts of interest and bureaucracy associated with hierarchy, and 4) the cost of tyranny exhibiting as low levels of creativity and enthusiasm amongst employees.⁶ In disaster relief, groups like Mutual Aid Disaster relief, a grassroots mutual aid network that utilizes direct action, regularly do better at responding to disasters than the state and larger, bureaucratic organizations like the Red Cross. Hackers have been able to access closed source sleep apnea machines and tractors in order to allow users to access data directly

4 “Motor Vehicle.” *Wikipedia*, Wikimedia Foundation, 20 Feb. 2020, <en.wikipedia.org/wiki/Motor_vehicle#Ownership_trends>.

5 Mazareanu, E. “Airline Industry Worldwide - Number of Flights 2019.” *Statista*, 11 Dec. 2019, <www.statista.com/statistics/564769/airline-industry-number-of-flights/>.

6 Hamel, Gary. “First, Let’s Fire All the Managers.” *Harvard Business Review*, 7 Sept. 2017, <hbr.org/2011/12/first-lets-fire-all-the-managers>.

and maintain their own assets without having to go back to the manufacturers, lessening their monopoly power.⁷ The internet, initially a result of military research, now facilitates communication and coordination within radical groups from Hong Kong to Chile, and access to vast amounts of knowledge via sites like Wikipedia and SciHub.

An anarchic solution to today's problems would not involve simply coopting the existing landscape as state socialists have attempted in the past only to recreate capitalist relations, but a gradual transformation of day-to-day life, the active construction of a new world in the shell of the old. This could take the form of increasingly locally oriented supply chains, decentralization of production, repurposing of infrastructure, black markets, squats, and other modes of organizing that lie *outside* the nexus of capitalism. Unembedding ourselves from the capitalist landscape, which currently defines much of the content of everyday life, would entail a radical transformation, not just in terms of our social relations, but of the world around us, the physical landscape, and the availability of goods and services. In order to make such a transition feasible, decarbonized, localized, and horizontalized infrastructure would be required to create an economy that works without the exploitation of labor and environmental destruction.

A RADICAL REDISTRIBUTION OF COST

Having outlined just how embedded we are in the landscape of statism and capitalism, we can move on to the specifics of how costs are distributed and what it would mean to internalize them. Many cheap, seemingly abundant, mass produced goods – from canned fish to microprocessors – are only cheap and universally available because of the exploitation of labor and environmental destruction.

Today, many goods produced in the Global North are transported to the Global South for processing, before being shipped back for distribution. Absurd arrangements such as this are a result of the exploitation of labor in the Global South and the externalization of environmental costs by producers. Abolishing capitalism and moving towards anarchy would involve the internalization of these costs as workers and impacted third parties become empowered to bargain on their own terms, rather than from within a framework where employers, the state, and corporations have most of the power. This section is split into four areas that cover the accounting of labor costs, environmental costs, the intersection of both, and costs offset onto consumers.

I. Authority and Labor Market Equilibrium

In his book *Bullshit Jobs*, David Graeber addresses the following critique of his initial article published in *The Economist*.

No, the efficient way to do things is to break businesses up into many different kinds of tasks, allowing for a very high level of specialization. And so you end up with the clerical

⁷ Allen, Marshall. "You Snooze, You Lose: Insurers Make The Old Adage Literally True." *ProPublica*, 9 Mar. 2019, <www.propublica.org/article/you-snooze-you-lose-insurers-make-the-old-adage-literally-true>.

equivalent of repeatedly affixing Tab A to Frame B: shuffling papers, management of the minutiae of supply chains, and so on. Disaggregation may make it look meaningless, since many workers end up doing things incredibly far removed from the end points of the process; the days when the iron ore goes in one door and the car rolls out the other are over. But the idea is the same.⁸

To this point Graeber responds:

In other words, the author claims that when we speak of "bullshit jobs," we're really just talking about the postindustrial equivalent of factory-line workers, those with the unenviable fate of having to carry out the repetitive, mind-numbingly boring but still very necessary tasks required to manage increasingly complicated processes of production. As robots replace the factory workers, these are increasingly the only jobs left. (This position is sometimes combined with a rather condescending argument about self-importance: if so many people feel their jobs are useless, it's really because today's educated workforce is full of philosophy or Renaissance literature majors who believe they are cut out for better things. They consider being a mere cog in administrative machinery beneath their dignity.)

Bullshit Jobs, as defined by Graeber, are jobs with no discernable purpose to those who perform them, typically with respect to productive output and cost efficiency. In order to refute *The Economist's* assertion, he points out that the huge increase in administrators did not correspond to any increases in the complexity of teaching, writing and research, or government regulation. Hence, the discrepancy was not a result of economic hiring necessity, rather, Graeber hypothesizes that the move was a power grab as part of an increasingly managerial work culture.

While Graeber effectively shows that many jobs under capitalism wouldn't need to exist at all if not for the culture of managerial feudalism, it is my intention to examine the post-capitalist changes in incentive structures surrounding work in general, including jobs that do serve a discernible function, such as those whose function is obfuscated to workers through aggregation; i.e. "the containerization of shipping, Japanese-style 'just in time' production regimes, or the globalization of supply chains."⁹

Before embarking on any analysis, it is important to note that this section focuses on mapping out possibilities and at most, likelihoods. Individual tradeoffs between labor and leisure are highly subjective, which keeps the field of possibility open. However, the same axiomatic approach used to argue that opportunity cost is the minimum limit of price in a free market, can be applied here, where we extrapolate from generalized observations about unsafe, tedious, and boring drudge labor.¹⁰ With that nuance in mind, we can consider how transitioning to an anarchic economy without authority might impact the labor market relative to capitalism.

⁸ "On 'Bullshit Jobs.'" *The Economist*, The Economist Newspaper, <www.economist.com/free-exchange/2013/08/21/on-bullshit-jobs>.

⁹ Graeber, David. *Bullshit Jobs: a Theory*. Penguin Books, 2019.

¹⁰ Buchanan, James M. *Cost and Choice: an Inquiry in Economic Theory*. Liberty Fund, 1999.

In the US, wages drop 17% between the 25th and 75th percentile of labor market concentration. In developing countries, where there are fewer labor rights and impoverished and precarious workers lack the ability to incur search costs, the fall in wages is likely to be significantly higher.¹¹ Furthermore, the labor share of national income in the US (non-farm) decreased by 8.7% from 1947 to 2016, from 65.4% to 56.7%, with 75% of the change occurring after 2000.¹² This change was largely driven by the concentration of capital, higher short term returns to capital due to IP (higher depreciation), and industry consolidation.

These trends are broadly underpinned by the fact that labor markets under capitalism are characterized by exploitation and alienation. Alienation refers to the negative feelings workers experience over being dispossessed and coerced into serving the interests of capital. Although consumers may be willing to spend their disposable incomes on cheap, mass produced goods and services, the terms on which workers produce these goods and services are skewed in favor of capitalists as a result of state intervention in the economy.

Exploitation occurs when the wage rate for any given worker is driven below the disutility cost (the effort it takes to produce things) of doing the job, which is in turn guided by factors like the cost of living a comfortable life or how unpleasant a particular job is. In exploitative arrangements, employers gain at the expense of their employees, and disutility costs are externalized onto workers, instead of borne by producers as higher wages, or by consumers as higher prices.

Exploitation is enabled by state intervention in the economy. More specifically, the state cultivates monopsony and oligopsony power, situations where markets are respectively dominated by one or very few firms.¹³ This is enabled by regulatory capture. As a result, worker bargaining power is suppressed due to a lack of hiring competition, allowing firms to set wages below what they would pay in a competitive market, and in some cases, wages that do not cover the disutility of labor, externalizing costs onto workers, resulting in alienation and exploitation. Monopsony power also leads to higher profit margins and prices due to artificial scarcity.

A transition to a post-capitalist future entails a reduction in profit-margins derived from monopoly and monopsony power and a change in the distribution of costs between stakeholders in production through reciprocal arrangements. In practice, this would entail more worker control over compensation, what they do, how they do it, when they do it, and for how long. In a world where there are no rulers to prescribe time spent at the workplace, workers could hold each other accountable and determine compensation through fluid, peer-to-peer agreements, where labor costs more fully reflect disutility. While numerous corporations today are already experimenting with flexible work arrangements, the practice may gain more traction in a non-

11 Azar, José, et al. "Labor Market Concentration." 2017, doi:10.3386/w24147.

12 Manyika, James. "A New Look at the Declining Labor Share of Income in the United States." *McKinsey & Company*, <www.mckinsey.com/featured-insights/employment-and-growth/a-new-look-at-the-declining-labor-share-of-income-in-the-united-states>.

13 Naidu, Suresh, et al. "Companies Have Monopoly Power over Workers' Wages. That's Killing the Economy." *Vox*, Vox, 6 Apr. 2018, <www.vox.com/the-big-idea/2018/4/6/17204808/wages-employers-workers-monopsony-growth-stagnation-inequality>.

authoritarian environment. Workers would also have a greater capacity to experiment with both new and old production practices, leading to more diversity in output.

Broader state intervention, even in the absence of monopsony conditions, also directly and indirectly suppresses worker bargaining power, resulting in exploitation. These interventions, which have already been mentioned, include the reification of the employer-employee relationship, national borders, enclosure of the commons, limitations on bargaining tactics, and the normalization of the 40-hour work week. An increase in worker bargaining power allows workers to demand higher wages, which affects the individual's trade-off between labor and leisure by making leisure relatively more attractive. The overall impact of this would be a reduction in labor supply, leading to less production and upward pressure on prices. This is explored in more detail in section ii).

For consumers, these changes might result in lower or stable prices for some goods and services due to the erosion of profit margins, and higher prices or a collapse in availability for others due to increased labor costs.

The results of these changes are impossible to predict and will vary from individual to individual and between industries and regions, with some people having different working and compensatory preferences. However, absent the power imbalances of historical colonialism and mass expropriation of the commons, we can make the case that compensation would rise so that the standard of living in low-income communities and the developing world, becomes equal to that of the developed world, which would have a massive impact on production and consumption trends. The following sections cover how the internalization of labor costs might impact the wider economy in greater detail.

1. Monopsony Conditions

For producers, opportunity cost is effectively a lower bound on price, which includes labor disutility. In monopolized capitalist markets where worker bargaining power is suppressed, employers can artificially suppress wages, meaning workers are not fully compensated for their disutility. Monopsony power persists along multiple vectors (geographies, cyberspace, certain industries, etc.) because of state intervention in markets (fixed title and deed over property, zoning, minimum capitalization requirements, patents, government contracts, licensing, national borders, eminent domain, etc.), employment search costs, non-compete clauses in employment contracts, and work travel distance, all features of capitalist laws and infrastructure.

Examples of monopsonistic markets in America include agribusiness, fast food, prisons (which should be abolished), and local hospitals. The gig economy is a notable example of a monopsonistic labor market. Workers are not only often paid below the cost of living, but also forced to take on the risk of losses as the owners of capital, while the apps accrue massive amounts of rent.

As monopsony power fades and worker bargaining power increases, labor disutility would be fully reflected in the opportunity cost of production, which would reduce profit margins, while increasing demand for labor and output, leading to lower prices. This is explained in more details with reference to Fig. 1.

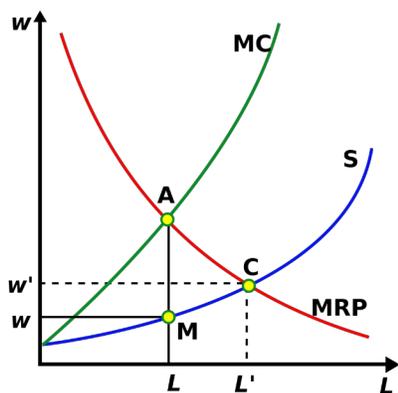


Fig. 1

In Fig. 1 above, wages are set below the marginal revenue product of labor at w under monopsony conditions. If monopsony conditions were abolished through decentralization, localism and horizontalism, wages would rise to w' and labor would increase from L to L' . We would see lower profit margins for the producer along with increased demand for labor and hence, higher wages.

In the market for the good being produced we would see an increase in output, leading to lower prices for consumers. In summary, getting rid of the labor market monopsony would cause the demand for labor to increase leading to higher wages, reduce profit margins, while also lowering prices faced by consumers.

According to research examining labor market power¹⁴ by Naidu, Posner and Weyl, under monopsony conditions, "Employment... is 5 to 18 percent less than it would be in a competitive market," and "labor's share of economic output should be about 74 percent if labor markets were perfectly competitive" (currently it is around 56.7%). As an example, they point out that median annual wages of nurses would increase from \$68,000 to \$90,000-\$200,000 if labor markets for nurses were competitive.

2. The Impact of Authority on Labor Supply

State intervention drives total compensation below the marginal disutility of labor by also directly reducing worker bargaining power, even in relatively competitive capitalist markets. This lack of bargaining power is caused by the reification of the employer-employee relationship, national borders, enclosure of the commons, the normalization of the 40-hour work week,

¹⁴ *Ibid.*

precarity, and indebtedness, all of which lead to inflexible labor markets. As the trade-off workers face between labor and leisure is distorted by authority, workers are coerced into unsafe, tedious, and boring jobs for low wages.

Access to commons, which are presently monopolized by nation states and corporations, would allow workers the option to move outside the cash nexus and produce for direct consumption. This also introduces greater flexibility to the labor market, allowing workers to incur higher search costs, resulting in a balance of power in the processes that determine compensation.

In other cases, workers might simply refuse to perform jobs they are coerced into under capitalism, such as mining in unsafe conditions, working in the midday sun, and performing boring, repetitive, and unpleasant jobs like gutting fish in a food processing factory or manufacturing consumer electronics in an assembly line. The disaggregation of processes where the people implementing them are unaware of and uninvested in final outcomes (high levels of specialization) comes with its own costs, extreme tedium and lack of purpose.

Overall, the abolition of state power would result in labor disutility being incorporated into compensation through increased bargaining power. Individual workers in many industries would have the capacity to demand more compensation per hour worked than they would under capitalism, and meet target levels of income with less labor, above which they would choose to work less with each increment of wages. Therefore, for many jobs, the labor supply curve, which is the relationship between wages and labor supplied, would shift inwards because workers would demand higher wages for the same amount of work at every point along the curve.

These changes can be better understood by looking at the individual labor supply curve. The labor supply elasticity for individual men in America is around -0.1 where hours worked decrease as wages rise.¹⁵

The diagram below shows the backward bending labor supply curve for individual workers. Individual labor supply curves are horizontally summed to derive the aggregate labor supply.

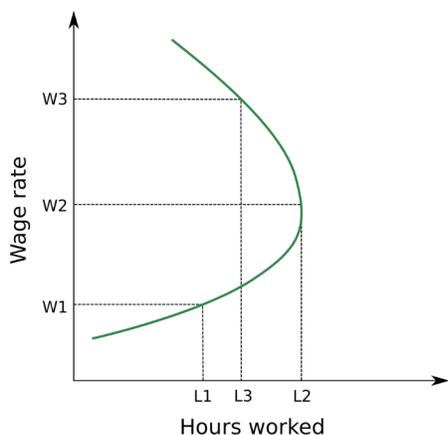


Fig. 2

¹⁵ Borjas, George J. *Labor Economics*. McGraw-Hill/Irwin, 2020. pp46

Fig. 2 can be broken down into the substitution and income effects. The substitution effect is the opportunity cost of leisure, which increases with wages. The income effect is affordability of leisure time, which also increases with wages. Therefore, the substitution and income effects work in opposite directions. Between W_1 and W_2 , the substitution dominates the income effect, resulting in a positively sloped labor supply curve. At W_2 , the income effect cancels out the substitution effect. This is because after meeting a minimum standard of living, above a target wage rate, workers value leisure over additional increments in wages. Above W_2 , the negative income effect dominates the substitution effect, resulting in an overall negative wage effect.

Another way of looking at this curve is in terms of elasticity, where, at lower levels of income, workers are highly sensitive to increases in wages, because the marginal benefit of one additional unit of wages is higher at lower levels of income. As income rises, the marginal benefit of wages relative to leisure starts to decrease, until an increment of leisure is worth more than an increment of wages, leading to workers working fewer hours with each increment of wages.

Above the target income threshold of W_2 , individuals tend to value free-time over labor and will work fewer hours as wages rise. Eliminating the impact of authority on the trade-off between labor and leisure would mean that more people would be able to work less than 40 hours a week, because they would be able to demand higher wages for each hour of work, allowing them to meet their target income below 40 hours/ week. Assuming that the above curve represents the individual labor supply curve under capitalism, in a post-capitalist economy, workers might meet their hypothetical target income of W_2 at L_3 instead of L_2 .

Additionally, given that work weeks are often constrained at a minimum of 40 hours/ week, workers who have already met their target incomes but still work 40 hours/ week due to the constraint would choose to work less after it is removed.

Finally, in cases where workers simply refuse to perform a particular job, the curve itself collapses, where no matter how high wages get, an individual would be unwilling to work at every point along the curve. This would likely apply to far more goods and services in a post-capitalist economy than under capitalism.

The overall effects of these changes would be an inward shift in labor supply resulting in lower levels of output, especially in areas that are deemed unimportant by liberated producers and consumers. I find it unlikely that we would have the same number of sales reps, telemarketers, and management consultants in an anarchic post-capitalist society.

Consider the following simplified scenario. Under capitalism person A spends 40 hours a week producing medicine and person B spends 40 hours a week producing ads, both trade the contents of their labor in seemingly "voluntary" (if you ignore underlying power structures in the manner of vulgar libertarians) transactions. However, after addressing the broader context in which these interactions take place; the geography of cities, monopoly power, enclosures, no access to commons for production for direct consumption, centralization of production, and regulatory capture, persons A and B might each spend 20 hours a week producing medicine for higher wages, while using the rest of their time for leisure. In a context where workers have more

bargaining power to determine compensation, hours, methodology, and whether to work in a particular role at all, we might find that in many cases workers work fewer hours while demanding higher wages, resulting in lower levels of output.

To put things more bluntly, consider industrial meat production. Without the coercive conditions, not many people would spend their entire lives zapping cows, castrating pigs, and ripping feathers off chickens on assembly lines. Corporations would no longer be able to murder and dispossess indigenous people to access their lands for pasture. No, instead meat would be extremely scarce and hence more expensive, with a higher portion of people's diet being plant based as long as innovations such as cultured meat do not take off. That said, since the systematic domination and exploitation of animals is unacceptable from an anarchist standpoint, this might be an unnecessary example.

Finally consider sulfur mining, where highly exploited workers enter volcanoes, expose themselves to toxic fumes with nothing but fabric as a filter and carry heavy loads of 85-100kg of sulfur back to the surface for \$12/ day. In the absence of monopsonized buyers of sulfur, no national borders (allowing workers to move to wherever they're most productive), and access to commons, I imagine very few miners would continue to work the same job in the same conditions. Those who do would charge higher prices to cover the disutility cost of their labor and the expensive fossil fuel dependent equipment needed to safely mine. Sulfur and sulfuric acid are used in pharmaceutical drugs, fungicide, pesticide, refining metals, and in motor vehicle batteries. There are thousands of pockets of exploitation such as this one, that lead to knock-on effects that raise prices across numerous supply chains. These effects are further compounded when we consider environmental costs.

The idea that firms are just responding to consumer demand under capitalism implies that it exists in a vacuum and that goods are produced solely because people demand them and not because people are coerced into working dangerous, monotonous jobs for low pay to produce them. In an anarchic society, goods are produced when *individuals* are willing to supply them and people are willing to buy them. Workers with the capacity to freely associate and control the contents of their labor are unlikely to toil 8 hours a day mass-producing frivolities for the consumerist Global North, with many refusing to work unsafe, boring, and backbreaking jobs or opting for extra free-time after meeting their target incomes.

Increased labor costs does not necessarily mean that production in impacted areas needs to end because it would decrease the relative price of capital, increasing the incentive for producers to come up with more capital incentive methods of production, with a focus on automation. For example, the automation of tedious customer service is being held back by the existence of cheap, exploited labor in countries like India. Another example is cashiers; while they often serve the useful task of preventing theft, advanced vending machines could resolve the problem.

II. The Internalization of Environmental Costs

Why is it profitable for corporations to burn down forests, displace and massacre indigenous people, and poison water systems and the atmosphere? The broad answer is that they have been empowered by the state through private property protection, subsidies, tax breaks, and kickbacks, which allow them to externalize the costs of their activities onto third parties, effectively privatizing the gains and socializing the costs. There are numerous examples of industries that rely on offsetting costs onto future generations and marginalized groups through environmental destruction including the meat industry, car industry, electronics industry, and consumer goods industry. Anarchy creates scope for environmental externalities to be fully addressed.

This does not mean that emissions and resource extraction would go to zero, just that levels of production would be determined in a reciprocal framework; i.e. through a dialogue with all relevant stakeholders, including third parties. Environmental externalities, just like labor externalities, are subjective, so there is still scope for human activities to have environmental impacts, as long as third parties are compensated for their disutility or consider themselves unaffected. Just as in the case of labor, when faced with externalities, third parties might either demand recompense for their suffering or seek to shut down environmentally harmful processes in their entirety, increasing scarcity and therefore raising price levels.

Environmental justice can never be fully achieved under the state because: 1) Under the state, *a priori* property delineations mean that externalities can only be disputed through the legal apparatus, which is biased, by design, in favor of concentrations of private power. 2) When states do intervene, reductions in emissions are circumscribed by borders and come at the expense of environmental destruction and economic exploitation in other countries. For example, the internalization of externalities from investing in solar panels is often offset by the need to transport panels from across the world, manufacture them with slave labor, and use raw materials extracted by strip mining – all carbon intensive processes in their own right.¹⁶ 3) Blanket solutions imposed on millions of people with diverse and competing interests ignore or only partially address externalities faced by certain communities, or simply transfer externalities onto more marginalized groups of people. Conversely, in an anarchic setting, people who're impacted by environmental externalities would be free to engage in direct action against polluters, or if the costs are not deemed too high (for example, smoking), come to compromises where polluters alter their production inputs and methods or compensate those who're negatively affected.

The failure of environmental justice under capitalism is ubiquitous; in 2016, in Standing Rock, North Dakota, Indigenous land was violently expropriated by the state to make way for the Dakota Access Pipeline. Responding water protectors were brutalized and detained, the movement was assimilated into the legal system, and construction was completed under the

¹⁶ Temple, James. “At This Rate, It's Going to Take Nearly 400 Years to Transform the Energy System.” *MIT Technology Review*, MIT Technology Review, 2 Sept. 2019, <www.technologyreview.com/s/610457/at-this-rate-its-going-to-take-nearly-400-years-to-transform-the-energy-system/>.

Trump regime in 2017. Under capitalism, powerful financial interests are able to suppress dissent, to the point that water safety can be threatened by corporate profiteering.

In 2009, the commodity trading giant Trafigura reached a historic settlement for deliberately dumping toxic waste off the coast of Côte d'Ivoire, resulting in around 30,000 seeking medical treatment, 30% of total patients at the time.¹⁷ Per capita compensation amounted to only \$1,546 per person, much of which allegedly did not reach the victims due to local corruption.

In place of these two outcomes under capitalism, I propose another possibility; total expropriation of the assets of offending companies and shutting down production. This arrangement still does not come close to covering environmental damages, which would require a systematic restructuring of the global economy towards arrangements where those who currently bear environmental costs have the power to ensure that all costs are internalized.

The scale of environmental costs is massive. To put the problem into perspective, the WHO predicts that approximately 4.6 million people die per year due to air pollution.¹⁸ As part of a 2013 study called The Economics of Ecosystems and Biodiversity, Trucost put the cost of the top 100 global externalities (unpriced natural capital costs) at \$7.3 trillion.¹⁹ These costs were broken down into GHG emissions (38%), water use (25%), land use (24%), air pollution (7%), land and water pollution (5%), and waste (1%). Seeing as global emissions have continued to increase since 2013, this number is likely to be higher today. According to the report, *none* of the world's top 20 region-sectors with the highest environmental impact would be profitable after accounting for environmental externalities, with margins ranging from -67% for cement manufacturing to -1% for petroleum and natural gas extraction.

The sectors in the top 20 (after removing repeat sectors due to region) include, in rough order of *absolute* magnitude: coal power generation, cattle ranching and farming, wheat farming, rice farming, iron and steel mills, cement manufacturing, water supply, fishing, corn farming, sugarcane, petroleum and natural gas extraction, and natural gas power generation. It is important to note that the numbers presented in the report are in absolute terms and hence don't account for scale. Activities such as rice and wheat farming are represented because of the sheer size of the two industries and the reason they don't remain profitable after accounting for externalities is because of the relatively low margins in both industries. Numerous other sectors such as oil power generation would also be in the red after accounting for environmental externalities, but weren't included because they produce less pollution in absolute terms but more pollution per dollar invested.

The Trucost figures also do not consider the future costs of climate change like mitigation costs, which are estimated at \$222-334 billion per year up to 2030.²⁰ The end result of abolishing the sources of these externalities in an anarchic framework would fundamentally change energy

17 "2006 Ivory Coast Toxic Waste Dump." *Wikipedia*, Wikimedia Foundation, 11 Jan. 2020, <en.wikipedia.org/wiki/2006_Ivory_Coast_toxic_waste_dump>.

18 "Air Pollution." *ScienceDaily*, ScienceDaily, <www.sciencedaily.com/terms/air_pollution.htm>.

19 "Natural Capital at Risk: The Top 100 Externalities of Business." *Trucost*, <www.trucost.com/publication/natural-capital-risk-top-100-externalities-business/>.

production, consumption patterns, and modes of transportation, at the expense of those who benefit from the status quo arrangements.

The largest source of pollution in the Trucost report was coal power generation in east Asia and the US, which generates \$768 billion in environmental externalities. Suffice to say, coal power generation would no longer be viable after accounting for most externalities. Imagining an anarchic energy system is a difficult undertaking but given levels of energy return on investment, solar panels built with recycled materials and deployed on rooftops and in urban areas might be an effective way to transition away from fossil fuels. However, this comes with some nuance because right now, solar panels are produced using heavy metals, rely on vast manufacturing supply chains, are deployed in land intensive ways, and are disposed of in ways that lead to environmental harm. Internalizing externalities is not simply a matter of transitioning locally while offloading costs onto the Global South, but environmental justice, where costs are fully internalized.

Car culture, which causes numerous externalities, from GHG emissions to extensive land use, is another likely victim of a radical redistribution of costs. While freely associating producers in a stateless economy would be capable of managing the logistics of a global supply chain to manufacture cars and produce fuel, the internalization of the environmental costs from this undertaking would cause the price of inputs such as fossil fuels and right of way programs to clear land to spike dramatically, rendering car culture far less feasible as a generalized mode of transportation.

When it comes to reducing GHG emissions, car culture is the tip of the iceberg. The majority of widely available consumer goods currently rely on isolates from oil and natural gas refining. A non-exhaustive list of these goods includes: plastic products, fertilizers, makeup, petroleum jelly, and ammonia. Our dependence on exploitation and environmental destruction cannot be understated. In the Trucost report, petroleum and natural gas energy would work on -1% margins, which doesn't account for the fact that the industry is heavily monopolized and a transition to anarchic economy would eviscerate profit margins that stem from monopoly power. Therefore, in a stateless society, the industry would be even less viable than the numbers make it out to be. Today, with oil and gas extraction increasing every year, goods made of plastic are plentiful, from toys to common household items. In a setting where environmental costs are internalized, we would likely see plastic use being prioritized for medical devices and research over the tons of whimsical junk mass produced by capitalism along with more research into alternative materials than can be produced without destroying the environment.

Another example is industrialized meat production, which not only involves the domination of animals and an emotional toll, but is also environmentally destructive in terms of land use and GHG emissions. 70% of arable land is used as pasture and 10% is used for feedstocks. Globally, animal products account for 17% of total calories eaten, but currently constitute 83% of

20 Ritchie, Hannah. "How Much Will It Cost to Mitigate Climate Change?" *Our World in Data*, <ourworldindata.org/how-much-will-it-cost-to-mitigate-climate-change>.

agricultural land use and produce 56-58% of food related emissions.²¹ This would mean a 76% reduction in farmland and 49% reduction in food related GHG emissions if everyone shifted to a vegan and/ or hunter gatherer lifestyle. The scope for animal farming in an anarchic economy is limited by the consent of both animals and those impacted by emissions and land use.

Next, consider mines. While a certain level of extraction would likely be deemed necessary, they nevertheless produce massive environmental externalities. For some communities, collectively operating mines or treating them as a commons could become an important source of value, wherein mining continues albeit in a way that doesn't harm third parties and with the necessary safety precautions, which would be far costlier in terms of both equipment and labor. But in other regions, mines are surrounded by people who do not participate in mining and do not rely on mined commodities, such as indigenous people in Brazil and India, whose land has been expropriated by the state and handed to mining corporations.²² In an anarchic framework, it would be impossible for foreigners to impose their demand for mined commodities on unwilling groups, resulting in the shutdown of numerous mines across the world. Just as with other commodities, this would result in greater scarcity and dramatic price increases for mined commodities.

As a final, and slightly different, example, let's take agricultural monoculture, a highly land intensive farming method that is dependent on fertilizers derived from fossil fuels, deforestation, and aquifers, and which results on top-soil loss, biodiversity loss, desertification, and eutrophication. *However*, unlike the other example I have cited, the internalization of externalities that stem from monoculture would not necessarily lead to greater scarcity or higher prices. In an article titled, "*How Much Will the US Way of Life Have to Change?*" published on unevenearth.org, Max Ajl argues that smallholder agro-ecology is more productive and more sustainable than traditional monoculture and enables the developing world to transition away from being "agro-export" economies, enabling them to reallocate labor towards other sectors.²³

A copious literature makes clear that smallholder agro-ecology in various countries of the former Third World can feed, for example, 12-15 people with one person's year-round labour on plots of between one and two hectares. In price terms, agro-ecology yields higher economic returns than conventional agriculture, and this with close to 0 percent of global agricultural research and development devoted to improving, rather than merely documenting, its potential. Agro-ecology is carbon-dioxide-absorbing, bio-diversity defending, and resilient in the face of climate change. And there is no question of whether smallholders can feed the world, as they outproduce export-oriented heavily capitalized farms on a per-land-area basis.

21 Poore, J., & Nemecek, T. (2018). "Reducing food's environmental impacts through producers and consumers. *Science*," 360(6392), 987-992. <environmentmath.org/2018/06/17/paper-of-the-day-poore-nemecek-2018-reducing-foods-environmental-impacts/>

22 "India's Ancient Tribes Battle to Save Their Forest Home from Mining." *The Guardian*, Guardian News and Media, 10 Feb. 2020, <www.theguardian.com/environment/2020/feb/10/indias-ancient-tribes-battle-to-save-their-forest-home-from-mining>.

23 "How Much Will the US Way of Life Have to Change?" *Uneven Earth*, 10 June 2019, <unevenearth.org/2019/06/how-much-will-the-us-way-of-life-have-to-change/>.

Furthermore, productivity per-person and per-hectare can increase (or yearly labour-inputs decrease) through sustained agro-ecological research and practice, a point at odds with those who insist that smallholder farming is a sentence of perpetual drudgery. What the viable alternative could be is always the question left with no good answer.

Further examples of environmental externalities include: the tons of non recyclable waste we dump into oceans, which poison ecosystems, enter our food, and choke marine wildlife, the arid urban sprawl that decimates land and requires motor vehicles to traverse, and the continuous deforestation of biodiverse woodlands to make room for cash crops like soybeans. While some goods such as agricultural produce would likely be produced even more efficiently in a stateless society than under capitalism, and others could be produced with recycled parts, the implications of a full ecological accounting nevertheless deal a death blow to the existing capitalist landscape, or what others have vaguely referred to as globalized industrial civilization: the immense, highly ingrained network that extracts raw materials, processes them, manufactures goods, and distributes them worldwide. The vast apparatus of institutions that produces most of the goods and services we depend on would need to radically transform in order for environmental externalities to be internalized.

III. Ecology and Work

Increases in bargaining power resulting in an increase in wages would mean that workers would likely work shorter hours on average in an anarchic, post-capitalist society. The reduction in hours would apply to work in extraction and manufacturing processes that produce GHG emissions, land contamination, and air and sound pollution. In fact, labor in these areas would likely fall by more than average since extraction work tends to be tedious and unsafe. Therefore, a reduction in work hours that stems from an internalization of labor externalities also internalizes environmental externalities such as GHG emissions, land degradation, and deforestation.

The Ecological Limits of Work from the thinktank *Autonomy* calculates the weekly working hours necessary for us to achieve the IPCC goal of exactly 2 degrees Celsius of heating would need to be 6 hours/ week, holding all else constant.²⁴ Although we are considering the internalization of externalities on labor and the environment, GHG emissions are a massive source of environmental externalities associated with climate change and contribute to air pollution.

It is important to note that the paper only varies working hours and treats carbon intensity (kg CO₂ eq/ dollar GDP) as a constant, only considering reductions in working hours as a means to reduce GHG emissions. In other words, the paper assumes that all other variables including the content of work, levels of carbon efficiency, and the average length of commutes do not change, so the numbers should not be taken as a prescription. Nevertheless, while sustainable practices such as switching to renewable energy might allow us to work longer hours, the decrease in work

24 Frey, Philipp. "The Ecological Limits of Work: on Carbon Emissions, Carbon Budgets and Working Time." *Autonomy*, 2019, <<http://autonomy.work/wp-content/uploads/2019/05/The-Ecological-Limits-of-Work-final.pdf>>.

hours from approximately 33.5 to 6 hours per week demonstrates the importance of reducing working hours and how drastic these changes would need to be in order to internalize the massive environmental externalities associated with climate change.²⁵

Another area where the process of internalizing environmental externalities is likely to change the nature of work is in farming. Returning to *"How Much Will the US Way of Life Have to Change"*:

One: current ways of replacing labour with capital in the Western countries have ripped apart our socio-ecological capacity to manage the land. Two: current consumption relies on imperialism to feed us food we like to eat. Three: the more peripheral countries re-orient their agricultural sectors to domestic feeding, well-being, and social development, the fewer foods will be available in the wealthier countries. Four: there are no serious models for ecologically sustainable regenerative agricultures that rely on technology as a substitute for human attention. Five: we cannot divorce thinking about a sustainable world from anti-imperialist struggle.

Increasing the percentage of the population in core states involved in farming follows logically from the above points. An increase does not mean 50 percent of the population, and it does not mean that everyone will be involved in farming. A corollary would be ensuring that such work is made as attractive as possible, inviting people to choose it freely, and de-centralizing cultural life and social infrastructure.

Essentially, a return to smallholder agriculture requires more people to be employed in farming. While smallholder farming tends to be more labor intensive, this doesn't mean that working hours for individual farmers would necessarily rise, since capital intensive farming methods also require similar patterns of labor time for individual farmers. That said, with labor all over the world having more bargaining power and hence receiving its full product, farmers would be free to invest in technologies that increase the productivity of smallholder farms.

IV. The Exploitation of the Consumer

In some areas capitalism exploits every possible consumer demand insofar as technology allows, enabled by the externalization of costs onto workers and the environment. In other areas capitalism ignores consumer demand and imposes artificial scarcity if it is profitable. This leads to the externalization of costs onto consumers by forcing them to spend more through monopoly prices, planned obsolescence, and services only geared towards certain demographics. These outcomes are a result of massive inequality in wealth, and hence bargaining power. This imbalance in power results in a misalignment between what certain consumers actually need or want and the specific types and quantities of goods and services produced under capitalism.

In an anarchic, post-capitalist economy, producers would work towards meeting a different subset of consumer demands, determined by the new distribution of cost. This could look like the

²⁵ "Employment - Hours Worked - OECD Data." *TheOECD*, <data.oecd.org/emp/hours-worked.htm>.

demand for certain goods like gas guzzling vehicles and fuel would go unmet and expanded access to normatively defined needs such as food, water, shelter and medicine, which are unaffordable for many marginalized groups under capitalism. Furthermore, competition between producers would give consumers more bargaining power, driving prices down to opportunity costs.

Just like in the labor market, addressing monopoly conditions in consumer facing markets would lower prices and increase output, an outcome that would be modulated to varying extents by the internalization of labor and environmental externalities. Based on the analysis in section 2), we can speculate that food prices would go down after the abolition of monopoly in global commodity markets, combined with the benefits of more localized agriculture. Similarly, with the abolition of the state monopoly over unused land, landlords, zoning laws and NIMBYism enabled by the authoritarianism of local government, housing would become increasingly affordable due to greater consumer bargaining power relative to builders and no state-imposed restrictions on the supply of housing.

Capitalists also offset costs onto consumers through planned obsolescence, where producers deliberately manufacture goods that are fragile and unupgradable, restrict the production of compatible spare parts and deliberately make old tech incompatible with new features or even throttle old tech through software patches, all in order to force consumers to purchase new technology, which contributes to profits at the expense of consumers, who are forced to spend more of their disposable income on operational tech. In February 2020, Apple was ordered to pay out \$500 million after being sued for deliberately slowing down old models of the iPhone, which entitled owners of old models to a mere \$25.²⁶ Just like with monopoly prices, planned obsolescence is a result of large centralized producers having significantly more bargaining power than consumers, resulting in technology that contributes to long term economic profits at the expense of meeting consumer demand. If consumers had more bargaining power they would have a greater capacity to hold producers accountable, resulting in more robust, upgradable and open source technology that reduces consumer expenditure in the long run.

Finally, asymmetries in economic power lead to the demands of certain demographics and groups being ignored by producers, resulting in a disproportionate amount of resources, relative to population, being allocated to privileged demographics along lines of class, race, gender, sexual orientation, ability etc. Contrary to the right-libertarian dogma, capitalist markets do not meet all consumer demands, but the demands of historically privileged groups. This is starkly reflected in the overprovision of goods such as large estates, yachts, sports cars, etc. and the underprovision of food, shelter and housing to low-income groups. Similarly, the needs and wants of economically disempowered disabled people are ignored by capitalist institutions that do not value their emotional labor. Moving away from capitalism would lead to the reallocation of resources based on both internalized costs and the resulting demographic and regional changes in purchasing power, wherein the preferences of historically marginalized groups would be considered by producers.

26 Robertson, Adi. "Apple Agrees to \$500 Million Settlement for Throttling Older iPhones." The Verge, The Verge, 2 Mar. 2020, <www.theverge.com/2020/3/2/21161271/apple-settlement-500-million-throttling-batterygate-class-action-lawsuit>.

With all this in mind it is worth revisiting my previous point about systemic breakdown creating new avenues for social change. While the internalization of costs destroys possibilities that rely on the exploitation of labor and environmental destruction, it creates new possibilities by making new technologies, modes of organization, and cooperative interaction increasingly viable.

DOES THIS IMPLY ANARCHO-PRIMITIVISM?

The short answer is no. While it is likely that many of the goods and services we take for granted would be scarcer, more expensive, and sometimes even unavailable in an anarchic society, the development of technology would not necessarily recede but change trajectory, creating the tools we need to live in an increasingly decentralized world with far more options than we have now. Moreover, in terms of praxis, anarchists do not simply want to co-opt the state, but instead replace it with horizontalized, decentralized institutions. This means competing with the state on all fronts, including technology, to make decentralized alternatives more viable in terms of cost.

There are numerous tendencies in technology and organizing that simultaneously increase the availability and lower the price of a variety of goods and services that can be produced locally and sustainably, like homemade bread and agricultural produce. There is no limit to the activities that people might deem to be worthwhile in their free-time, which capitalism limits by forcing workers to navigate inane bureaucracies made up of rules and regulations that are designed to reproduce power structures in a veritable war on the imagination.²⁷ Without these constraints on human activity, people would be free to innovate in new, interesting, and sustainable ways that benefit individuals rather than corporations and the state. At the same time, it is important to acknowledge that certain technologies such as the centralized production apparatus of existing capitalism, criminal profiling algorithms, weapons systems, mass surveillance apparatus, etc., serve to reproduce concentrations of private power and are hence antithetical to anarchy.

On an economy wide scale, the removal of all state interventions in the economy would foster competition between producers and social conventions. This would result in lower costs as profit margins derived from monopoly power are eroded away through more competing market actors, and collectivization in the case of natural monopolies such as utilities. In the long run, competition between many producers causes prices to converge to the cost of production, resulting in the constant erosion of interest, rent, and profit. Additionally, the organization of production into smaller, decentralized, supply chains would lower transportation costs, inventory costs (in terms of risk) and lead to better information transmission, leading to less wasted time and resources. Finally, open borders would increase capital and labor mobility, allowing both factors of production to freely move to where they are most productive.

Within workplaces, worker co-ops tend to be run more efficiently than capitalist firms and the average productivity of workers tends to be higher in co-ops.²⁸ This is because co-ops avoid the problem of moral hazard, where the imperfect information and conflicting interests between employers and employees that stem from workers having no stake in *profitability*, lead to lower

27 Graeber, David. "Dead Zones of the Imagination." *HAU: Journal of Ethnographic Theory*, vol. 2, no. 2, 2012, pp. 105–128., doi:10.14318/hau2.2.007.

28 Pérotin, Virginie. "What Do We Really Know about Workers' Co-Operatives?" *Mainstreaming Co-Operation*, 2016, doi:10.7228/manchester/9780719099595.003.0014.

levels of efficiency and innovation. Employers and employees constantly engage in zero sum games that arise from this conflict of interest, e.g. the publication of misleading data by employees to avoid being fired by their employers.²⁹ In worker co-ops, workers aren't working to benefit the owners of capital, but themselves, which would align interests and hence increase morale and therefore levels of productivity and efficiency. Another source of efficiency loss are internal knowledge problems, where managers make increasingly sub-optimal decisions as enterprises scale. Instead, workers who are familiar with production processes tend to be more qualified when it comes to determining the best ways of doing things and how to internally allocate resources so as to minimize costs.

When it comes to the environment, it is hard to imagine a world without fossil fuels when considering just how many of the goods and services we produce rely on oil and gas byproducts, which is itself only viable because of the externalization of environmental and labor costs. However, without the externalization of costs onto third parties, the relative price of plant based alternatives to fossil fuels would go down, resulting in plant based alternatives such as plastics derived from bananas and hemp becoming increasingly viable over time, as production infrastructure develops.³⁰ It means we are more likely to invest in more sustainable ways of manufacturing consumer products that use water and renewable energy as opposed to fossil fuels.³¹ Recycling would likely increase, with a greater emphasis on producing goods that can be recycled. All of this would be maintained by bottom up accountability through collectivized ownership schemes and increased transparency so as to counteract wasteful practices such as planned obsolescence.

Freeways can be replaced by light rail, bike paths, walkways, trams, and canals. Urban density can be increased to reduce the environmental impact of urban sprawl, allowing the suburbs to be reclaimed by nature. Industrialized agriculture can be replaced by permaculture and vertical farming. Fossil fuels can be replaced by solar panels composed of bioplastics and portable wind turbines. Production can become increasingly distributed and localized. What is clear is that the implementation of these possibilities would completely alter the physical layout and social relations that constitute society.

That said, there remain grey areas in the environmental dimension, such as industries that are dependent on extractivism; take electronics for example, goods that the vast majority of people in the developing world have come to fundamentally depend on. Electronics don't just require silica, but also lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, scandium, and yttrium. Metal extraction is a very carbon and land intensive process, which contributes to environmental destruction in the form of emissions and biodiversity loss. Most of these rare earth minerals are imported from China, which requires a carbon intensive

29 Ling, Rai. "Postmodern Discourse in the Corporate Boardroom." *Center for a Stateless Society*, <c4ss.org/content/52388>.

30 Peters, Adele. "This New Technical Fabric Replaces Polyester with Banana Plants." *Fast Company*, Fast Company, 11 Apr. 2019, <www.fastcompany.com/90333645/this-new-technical-fabric-replaces-polyester-with-banana-plants>.

31 "Manufacturing Consumer Products." *Main*, <energy.mit.edu/news/manufacturing-consumer-products/>.

transportation network. Metal refining with existing technology is a very environmentally destructive process, producing toxic and sometimes radioactive runoff.

Extraction and fossil fuels emissions are unlikely to be completely eradicated in an anarchic post-capitalist economy with some levels of toxic runoff and radiation being deemed worthwhile in exchange for the benefits of certain technologies. As I have mentioned, major investments in things like mine safety, would likely cause commodity prices to spike assuming current levels of technology due to increased scarcity. However, higher environmental costs actually creates a strong incentive to build lasting, upgradeable, and recyclable tech, which means that the increase in prices could produce large social benefits in the long run. Similarly, higher labor costs create an incentive to invest in automation, which is heavily suppressed under capitalism.

We have no way of knowing in which direction technology would go in the absence of capitalism, but consider the concept of fungal computers, a fanciful concept, where computations take place in a mycelial network.³² Other similar possibilities include plant wires,³³ slimeware,³⁴ and plant based solar panels that rely on photosynthesis.³⁵ Planting mushrooms and plants, unlike mining, can almost always be done locally, without any emissions and toxic runoff. The mushroom wouldn't need to be transported and processed through international, carbon intensive supply chains. Using the same idea as distributed computing, millions of people could grow mushrooms in their backyards, which could in turn be used to build computers on a vast, distributed scale.

But this talk of abstract possibilities borders on utopian. Asteroid mining is in a similar vein, a proposal that ignores the massive upfront capital costs needed to build rockets and consistently resupply asteroid bases. While not logistically impossible, it is hard to imagine competition in this area or the prospect of setting up industrial infrastructure in space before we contend with the problem of scarcity in metals here on earth.

With all that in mind, we can conclude that society would change to reflect a new equilibrium, one that incorporates the preferences of indigenous groups, the historically marginalized, and multitudes of other actors interacting in a distributed network rather than those of states, megacorporations, and the rich. This new equilibrium would prescribe far less production and consumption of goods and services deemed too costly to workers and those who rely on and value the environment, which is all of us, given that we breathe the same air.

32 Adamatzky, Andrew. "Towards Fungal Computer." *Interface Focus*, vol. 8, no. 6, 2018, p. 20180029., doi:10.1098/rsfs.2018.0029.

33 Adamatzky, Andrew. "Towards Plant Wires." *Biosystems*, vol. 122, 2014, pp. 1–6., doi:10.1016/j.biosystems.2014.06.006.

34 Adamatzky, Andrew. "Slimeware: Engineering Devices with Slime Mold." *Artificial Life*, vol. 19, no. 3_4, 2013, pp. 317–330., doi:10.1162/artl_a_00110.

35 LaMonica, Martin. "'Green' Solar Cell Is Made from Plants." CNET, CNET, 2 Feb. 2012, <www.cnet.com/news/green-solar-cell-is-made-from-plants/>.

CONCLUSION

Different manifestations of "abundance" appear along the infinite possible vectors of "progress": spirituality, time, contentment, medicine, shelter, food... brands, deepfakes, political parties, oil, and weapons. The only paths anarchism rejects are those that rely on authority and exploitation, where the interests of some are realized at the expense of others.

It is my assertion that *given current levels of technology*, anarchy entails a radical change in consumption and production patterns, through the internalization of externalities that are currently offset onto workers and the environment. This means an increase in abundance in some areas and a decrease or a collapse of abundance in others. What this might actually look like is people working shorter hours, working jobs that produce relatively less disutility, retiring to the commons and producing for use, engaging in barter, and adopting sustainable practices. By sustainable practices, I mean extracting and burning a tiny fraction of the fossil fuels we do today, mining dramatically less, abolishing industrialized animal agriculture and monoculture, recycling a lot more, engaging in permaculture, repurposing or abandoning freeways and car culture, rewilding the suburbs, and moving into smaller, denser communities, while investing in more durable, sustainable, decentralized technology.

There is always the potential for massive increases in total factor productivity and greater efficiency, especially through artificial intelligence and machine learning. Code has zero marginal cost of replication, can be easily deployed through computers, saves a massive amount of labor in the long run, and isn't environmentally destructive in the slightest.

Under capitalism, machine learning is more often than not a buzzword, or used to optimize things like marketing and stock trading. Some more pernicious applications of this technology include mass surveillance and criminal profiling. In a stateless society, with more resources mobilized towards the ends of individuals rather than corporations, this could quickly change. Instead of using machine learning to maximize user engagement (this is paperclip maximization as far as most people are concerned) we might invest more in automation that actually saves labor and increases productivity, for example, agricultural yield optimization. We can create the foundation of a world where automation does not serve to increase profit margins, but to create more free time and perhaps one day allow us to achieve post-scarcity anarchism.