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Capitalism, Socialism, and the Climate Crisis

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Abstract

The climate crisis calls for a massive and rapid retooling of our economy and society. I argue that we have reasons to doubt that capitalism, even reformed, could meet that challenge. As an alternative solution, authoritarian socialism such as existed in the former Soviet Union or China would be neither attractive nor effective; by contrast, a democratic form of socialism might be both. In a democratic socialist society, we would govern democratically both our enterprises and our economy as a whole. Democratizing the governance of enterprises would help them make better tradeoff decisions and internalize some important externalities. But if they remain at the mercy of capitalist competition in product, labor, and financial markets, many enterprises will be economically unable to retool fast enough, so we also need to pool the country's economic resources and manage them democratically, collectively, and strategically towards our shared environmental, social, and economic goals. Organizational research on corporate strategic management offers insights into how such an economic system could satisfy four key requirements for a successful fight against climate change—democracy, innovation, efficiency, and motivation.

Keywords

capitalism, democratic socialism, efficiency, innovation, market, motivation, public administration

Organization theorists are increasingly turning to society's grand challenges, of which climate change is perhaps the most critical. One important theme to emerge from the accumulating body of scholarship on such grand challenges is the need to democratize enterprise governance so firms can make better tradeoff decisions by internalizing some key externalities: the companion

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piece in this forum (Battilana, Yen, Ramarajan, & Ferraras, forthcoming) surveys relevant literature and makes a compelling case for the need and for how this might be done. The present paper argues that such changes within enterprises, critically important though they surely are, cannot overcome the climate crisis unless accompanied by complementary changes at the level of the economy as a whole. If enterprises remain at the mercy of capitalist competition in product and financial markets, many of them will be economically unable—no matter how democratically they are governed—to meet the enormous retooling challenge that is now posed by climate change. To overcome this challenge, we will need to pool our country's economic resources, so we can decide together—not only at the enterprise level, but also at the region, industry, nation, and supranational levels—how best to use these resources to meet our collective environmental, social, and economic goals and overcome the climate crisis. To fight climate change, I submit, we need to "socialize" our economy: we need a system-level change, from capitalism to democratic socialism.[1]

The idea of democratic socialism, I realize, rings alarm bells for many people. Socializing the economy means, in effect, transforming the wealth-producing core of our economy from a dispersed set of competing private enterprises into a synergistic network of public enterprises. Many find it hard to see how such a system could be economically effective or democratic, let alone both, especially when history provides us no examples, and when a long tradition of conservative thought tells us it is both impossible to achieve and dangerous to try (e.g., Hayek, 1956 [1944]; Mises, 1944). But I will argue that we have good reason to think socialism in democratic form is both essential and feasible.

Aiming to overcome this skepticism, the present article identifies four system-level requirements for an effective response to climate change, and identifies four proven organizing methods that a democratic-socialist society could use to satisfy them. I find evidence for the efficacy of these methods in the strategic management practices used in more advanced capitalist corporations today. Due to the corrosive effects of capitalist competition and hierarchy, these methods are today implemented only partially and sporadically in even the most advanced firms, but I argue that under conditions of socialized control, they could be implemented more rigorously and widely within enterprises, and they could be scaled up to guide our democratic and strategic management of the economy as a whole.

Exhibit A in the Case for Democratic Socialism: The climate crisis

The trends are well known: according to the IPCC (IPCC, 2021), if we stay on our current course, we will see increasingly frequent and destructive wildfires, hurricanes, ice-storms, and heatwaves over the coming decades. Lower water tables and rainfall levels will cause crop failures and mass migrations. Rising sea levels will force hundreds of millions to flee coastal areas. Climate scientists tell us that the world must get to net-zero carbon emissions by 2050 to have a reasonable chance of avoiding a chaotic breakdown of civilization.

Given these trends, the need for a green transition is widely acknowledged; however, the scope of the challenge is often badly underestimated. Yes, we need to shut down the coal, oil, and gas companies and build a new primary energy system based on renewables; but we also need to transform radically the working assets of myriad companies whose products are powered by fossil fuels—in the transportation sector, most notably. Moreover, we must radically transform vast swathes of our economy whose products and processes contribute to climate change—not only industries such as chemicals, plastics, cement, and mining, but also agriculture and forest products, as well as homes and buildings that rely on gas and oil for heating and cooking. Further afield, the climate crisis will force on us a massive effort to shore up our energy, water, and transportation infrastructures to deal with rising sea levels and extreme weather. And finally, this transition

needs to be a "just" one—ensuring that workers and regions are not left to fend for themselves—or else social tensions will rapidly become explosive.

Not only is the scope of this transition often underestimated; so too is its urgency. As a matter of both climate justice and sheer realism, and, given the constraints of the limited remaining global "carbon budget," we need to allow for poorer countries' slower decarbonization trajectory. This means that wealthier countries need to fully decarbonize much faster than implied by current national commitments—within a decade at most. Much of the current public discussion, by contrast, assumes the richer countries, like the world as a whole, have until about 2050 to get to net-zero. They do not. Sweden currently has the most ambitious goals of any developed country, aiming for emissions reductions of 5% per year; but to satisfy basic norms of global climate justice, Sweden would in reality need reductions of at least 12–15% per year (Anderson, Broderick, & Stoddard, 2020).

The cost implications of a faster decarbonization effort are huge. A tiny example illustrates the point. By far the single biggest source of my university's CO2 emissions (apart from our primary energy supply, for which we are dependent on the local utility, and apart from vehicle emissions from commuting and air travel) are the gas boilers that heat our buildings and water. They emit 28,400 MTCDE (metric tons of carbon dioxide equivalent) each year. Replacing them all with electric boilers would cost $216M. We would normally replace them as each reached their end of life (on average, 40 years). What if, in order to do our part for the planet, we replaced them all over 10 years instead of 40? In that case, a simple net present value calculation (using the university's standard 6% internal cost of capital as the discount rate and unchanged prices for new boilers) shows that this would cost an extra $78 million—an extra 35% added to the price-tag for this gesture of solidarity. To put it in further perspective; on this 10-year schedule, we would be paying over $182 for every ton of emissions we avoided; so, A carbon tax would therefore need to reach about $182 per ton to be a powerful enough economic incentive to replace our boilers on this 10-year timeline. But the US government's current estimate of the social costs of carbon is a mere $51 per ton (Interagency Working Group on Social Cost of Greenhouse Gases, 2021), and there is no political will for imposing a carbon tax of even that modest level. Sweden has the highest carbon tax in the world: it is more realistic, at $126 per ton, but it only covers 40% of Sweden's emissions, due to its many exemptions (Jonsson, Ydstedt, & Asen, 2020).

Once we take the measure of the scope, urgency, and cost of the climate change challenge, it becomes clear we need not only democratized enterprise governance but also a radical change in the wider system through which our society and the environment is governed. Yes, capitalist firms can mobilize the creative energy of their members and other stakeholders to reduce their carbon footprint to some extent; but no, businesses and their investors cannot be expected to absorb the financial losses implied by a such a rapid transition to net-zero. Nor can workers be expected to volunteer for the resulting job losses; nor should we expect customers to volunteer for higher prices. We will need a huge government-led effort, investing in or subsidizing enterprises and households to enable them to make the necessary changes. Had we started this transition 40 years ago, when the science was already clear, perhaps government could have used relatively modest taxes, regulations, and subsidies to ensure a slow but steady retooling process (Speth, 2021); but now we are confronted with the dire economic consequences of delay (Pisani-Ferry, 2021; Smith, 2016), and we urgently need government to drive a massive transformation of our economy and society.

What would such a system of expansive government control and support look like? The closest historical parallel in the West that I can find is the economic mobilization for World War II, such as we saw in the USA, UK, and Australia, when the business sector acquiesced, not without contestation, to government control

over production, distribution, prices, and wages, and where government financed and directed most of the country's investment (Delina, 2016; McKibben, 2016; Wilson, 2016). However, World War II represented a five-year sprint, whereas the war against climate change will be a marathon mobilization spanning many decades. During World War II, patriotism brought most of the business community around to temporary cooperation with government; but maintaining such expansive government control and extensive subsidies and investment through the long fight against climate change would effectively amount to socializing the ownership and control of most of industry.

It is hard to find any more pertinent examples. On the one hand, the Nordic social democracies seem unable to deal with a challenge as steep as this: their economies are still massively dependent on carbon (both in domestic consumption and in exports) and their prosperity is still dependent primarily on their private enterprise sectors. On the other hand, we need something very different from the authoritarian socialism of the former Soviet bloc and China: such authoritarianism is not only politically repugnant; it is also, as I will explain below, an insurmountable obstacle to an effective mobilization against climate change.

Four System Requirements, and the Challenges in Fulfilling Them

Without more pertinent examples, we must proceed analytically. My argument therefore starts from the system requirements for an effective and sustained mobilization for climate change mitigation and adaptation. I see four key requirements: democracy, innovation, efficiency, and motivation. Fulfilling each of these presents serious challenges. I will address each requirement and its challenges in turn; we will see that while capitalism clearly cannot overcome these challenges, socialism too would encounter challenges in fulfilling them. In the following sections, I will discuss how the democratic form of socialism that I propose might do that.

First, our strategic management of the economy as a whole must be democratic. The legitimacy afforded by democratic process is critical if we are to address the threat of climate change with sufficient vigor and rigor. And democracy is also essential because a just green transition will require wide participation by workers and citizens in order to identify the manifold opportunities for mitigation and adaptation across so many diverse sectors and help develop ways to exploit these opportunities. The challenge here lies in the risk of paralysis if we open the decision-making process to wider democratic participation. That risk will need to be confronted as enterprises democratize, and it represents an even greater challenge in national priority-setting. Our problem today, under capitalist conditions, is the obverse: capitalist democracies are blocked from responding adequately to the climate crisis by the veto power of the business community, in particular the powerful fossil fuel industry and its allies (Stoddard et al., 2021). One might imagine that an authoritarian regime could avoid this paralysis and simply decree the requisite changes in production and consumption. But this would stifle the essential upward flow of creative ideas, and it would soon provoke massive resistance. Democracy is a functional as well as ethical necessity.

Second, innovation—indeed, a massive wave of innovation—will be essential if we are to overcome the climate crisis. By itself, capitalist market competition cannot coordinate such an effort, and intellectual property concerns would hobble the diffusion of the innovations we need so urgently. On the other hand, however, government-led action will need to be of a type and scale we have never yet witnessed. Given the multifaceted nature of the necessary technological and organizational changes, we will need not one but multiple programs of the scale of the Manhattan Project, as well as myriad, more focused programs of varying sizes—something resembling the portfolio of programs than was required for the conversion of civilian into military production in World War II,

probably even bigger. This portfolio will need to be managed strategically at the national, regional, and industry levels. The challenge here for democratic socialism is that such government-led innovation efforts risk divorcing R&D from the real constraints faced by enterprises and households, leading to wasted R&D effort and obstructed transformation.

Third, the climate crisis demands that we reorient production towards eco-efficiency—the ratio between economic value-added and environment resources consumed (Huppes & Ishikawa, 2005). Capitalist competition spurs efficiency improvements so long as they are profitable; but eco-efficiency will often be unprofitable. And competition between firms would hobble the emergence of industry-wide voluntary environmental standards, even though such standards will be critical for a rapid transition. The challenge here lies in the risk that a comprehensive, government-led program of standardization could lead to rigid and alienating bureaucratization.

And finally, to sustain democracy, innovation, and efficiency in the long struggle against climate change, we will need to maintain high levels of citizen and worker motivation. More specifically, we will need a high level of solidaristic, collectivistic motivation if we are to dramatically scale back our plundering of the natural world and pool our nations' economic resources, because the burdens and benefits of our efforts will be distributed very unevenly. In capitalist societies, such collectivism can emerge in the context of a short war, but it is hard to see how it could be sustained for the decades of struggle ahead against climate change. On the other hand, while it is easier for a socialist society to maintain this collectivistic motivation, the motivational spur of individual material benefit would be blunted: the challenge here is how to mitigate the risks to innovation and efficiency.

So, we land in a strange place: the climate crisis points to the limits of capitalism and to the need for a form of democratic socialism, but we have no experience that would suggest that this new form of society could meet the system requirements for a successful war on climate change. Getting from here to this new system would be a huge challenge (I return to that concern in the concluding section), but if there is no viable model of the alternative system, we might be doubly stuck.

A Working Model. . .Right Under Our Noses

Organizational research suggests, however, that we have something like a small-scale working model of democratic socialism right under our noses—in many of our largest corporations. Indeed, many of our CEOs behave like closeted democratic socialists. Like *socialists*, because, although in public they defend the superiority of markets and competition over coordination and planning, inside their own corporations, where they could leave their various business units to compete with each other, they instead treat corporate resources as a single pool, and they draw the corporation's various business units into a strategic management process for deciding how to use those resources to achieve the best outcomes for the corporation as a whole (Sengul, Costa, & Gimeno, 2018).[2] And some of them behave like *democratic* socialists, because (and insofar as) they encourage wide participation in that strategy process—engaging lower-level managers and sometimes even front-line employees. They see that this participation will yield both smarter strategies and greater buy-in for implementing those strategies (Vaara, 2019). Such coordination of economic activity *across business units* within a big enterprise is much like the nation-wide coordination *across enterprises* that we envisage under democratic socialism as the way to tackle climate change. (Under capitalism, the strategizing process within corporations is "disciplined" by market competition: I return in a later section to the disciplining that could be provided by democratic accountability.)

Organizational research has shown that, in practice, this corporate strategizing effort encounters important challenges. In many firms, strategizing results are disappointing and participation

is limited to an inner circle (Mintzberg, 1994). Nevertheless—indeed, precisely because of this fact—the parallel between the strategic management of a corporation and of an entire national economy is instructive: the former encounters the same four challenges as the latter—democracy, innovation, efficiency, and motivation—albeit at a smaller scale, and some corporations have developed rather effective methods to deal with these challenges—methods that a democratic socialist system could use. Under conditions of socialized ownership, these methods could be deployed more rigorously and systematically at the enterprise level, and I will argue that they could be deployed on a wider scale and to even greater advantage in the "strategic management" of our country's resources.

In the following sections, I review in turn each of the four system requirements and their challenges, discuss the solution methods that have emerged in corporate strategizing, and sketch how those methods could be scaled up to help a democratic socialist society address the climate crisis. In the absence of strong theory and examples from history, this thought experiment is one way we can form a mental model of an effective democratic socialist system. Such a mental model provides a compass heading as we choose our path in retooling our economy and society to tackle climate change.

Democracy

Many managers see the potential benefits of democratizing the strategic management process, but are fearful of wider participation, both because it would make it too time-consuming and because they would not be able to reconcile the divergent views that are likely to be expressed (Collier, Fishwick, & Floyd, 2004). They therefore rely on an authoritarian, top-down strategy process that is controlled by a central planning staff. But the results do not reflect the opportunities and challenges experienced on the front lines in their business units, and these units have little reason to commit to the goals decreed from on high.

Some firms are more proactive in pursuing the potential benefits of wider participation, and have developed relatively effective methods for engaging the participation of lower-level managers, in some cases, even front-line staff (Bjelland & Wood, 2008; Floyd & Wooldridge, 2000; Mikko & Xavier, 2004; Ocasio & Joseph, 2008; Stieger, Matzler, Chatterjee, & Ladstaetter-Fussenegger, 2012; Tegarden, Sarason, Childers, & Hatfield, 2005; Tor & Torger, 1999; Wooldridge, Schmid, & Floyd, 2008). "Open strategy" and digital technologies have added new methods to the tool box (Vaara, Rantakari, & Holstein. 2019).

One key method for facilitating participation in the strategy process is to differentiate carefully between decisions that can be left to local units and decisions that implicate the rest of the corporation and should therefore be decided centrally.[3] The corporation's overall goals must, by definition, be decided centrally, but such centralized decisions can be made with broad participation, and decisions as to how each unit can best contribute to those goals can be made locally and in dialogue with other units and with the center. Strategizing in more advanced firms is thus no longer a matter of a centralized staff dictating detailed plans for each business unit: instead those units are involved in formulating corporate goals and are asked to bring forward their own ideas about how to achieve those goals (Cummings & Daellenbach, 2009; Grant, 2003). It is the difference between an itinerary and a compass heading: instead of specifying detailed itineraries for the units, the corporation sets higher-level goals that function as compass headings that the units use to guide themselves through an uncertain and changing world. Business units negotiate with headquarters the specific metrics that would be appropriate in assessing their progress toward those goals.

Of course, the strategic management process in even the most enlightened of our big corporations is not anywhere nearly as democratic as democratic socialists would want to see: the extent of bottom-up influence in deciding overall corporate goals is very limited, and the top executives who exercise final control are appointed by—and primarily accountable to—investor representatives. But under conditions of

socialized ownership, enterprises could overcome those limitations. Reaching consensus would still be difficult of course, but the deep structural impediment facing democratic decision-making in capitalist firms—the fundamental difference in objectives separating employees from investors—would be obviated.[4]

Moreover, we could use these methods to ensure the democratic quality of our strategic management at the wider level of regions, industries, and the national economy. Expanding on this idea: we could imitate the four cycles typically found in corporate strategizing (goal setting, planning, budgeting, performance appraisal), and in each cycle, our democratically-elected leaders could formulate proposals, elicit feedback from below, and revise their proposals in light of that feedback. Let us briefly consider each cycle in turn.

First, setting goals. Imagine that our elected leaders orchestrate a national dialogue—in face-to-face meetings in workplaces and neighborhoods, in advisory deliberative councils, in regional governing bodies, via digital polls—on how best to respond to the climate change threat. While reaching wide-enough agreement would be challenging, it would be far less so than today, because once we socialize the ownership of our key economic resources, political debate would no longer be subverted by vested business interests willing to buy political allies, fund climate change denial, and threaten capital strikes and capital flight. It would no longer be constrained by the structural power enjoyed by business in any society whose prosperity and jobs depend on continued profitability in the private sector. Coming out of that dialogue, these leaders would define our environmental, social, and economic goals for the coming period (say, five or ten years). In this process, there would be plenty of room for debate, but at some point, we would decide democratically on these goals and move forward.

These goals would then be sent back out to democratically-elected councils governing industries and individual enterprises (as well as regions and individual localities), asking them to propose plans for how they could contribute. They would engage a further round of deliberation within their jurisdictions to develop these plans. Their proposals would then be collated centrally, and any inconsistencies or gaps would prompt a round of revision.

In a third cycle, budgets would be allocated by government and by the national investment bank in accordance with our democratically determined goals and plans. Enterprises and localities would rely on their democratic governance structures to determine precisely how those budgets are to be used. We have a sizeable body of research on participatory budgeting that could guide us in this (see, e.g., Baiocchi & Ganuza, 2014; Shah, 2007).

And finally, in the performance evaluation cycle, the performance of enterprises and localities would be evaluated against the agreed-upon environmental, social, and economic targets. Good performance would be incentivized by both status-based rewards—public recognition and promotion opportunities—and pecuniary rewards—allowing high-performing units to retain more of their net revenue. Weaker performance would prompt the deployment of support resources or the redeployment of workers to other enterprises.

Some skeptics argue that it would be grossly inefficient to extend strategic coordination to such a vast and complex machinery as the national economy. It is axiomatic that the efficient boundary for coordination is set by the tradeoff between coordination's benefits and its costs: increasing the scale of coordination beyond that boundary will incur excessive coordination costs. Skeptics argue on this basis that the current size of firms must surely approximate the optimal scale of coordination, and the rest should be left to market competition. However, current firm boundaries are based on private costs and private benefits for private enterprises competing for profits in market competition: in this system, positive and negative externalities are largely ignored in setting the boundaries of coordination. Today, we are confronted by a climate crisis that makes such externalities a matter of life or death, not a peripheral, secondary issue. For just one illustration, consider the manifold

new inter-industry and inter-region connections required to create a circular economy (Brandão, Lazarevic, & Finnveden, 2020; Lacy, Long, & Spindler, 2020). The efficient boundaries of coordination have been dramatically enlarged by climate change.[5] Only if we bring enterprises under common ownership can we capture the environmental, social, and economic benefits of wider coordination. Scaling up the methods of advanced corporate strategic management, enterprises with greater system-wide effects (for example in banking, internet, transportation, and energy) would be more closely controlled at a national level; those with fewer systemic effects would have more autonomy.

Innovation

Many big corporations trust strategic coordination more than market-style inter-unit competition when it comes to ensuring their innovative capability (Arora, Belenzon, & Rios, 2011). Instead of letting each business unit rely entirely on its own R&D efforts, they fund centralized R&D unit through "taxes" on the business units. This pooling of innovation resources reduces duplication of innovation efforts across the business units. It also ensures that research scans a wider horizon and looks out further into the future than the business units would be willing to do in their local R&D.

The challenge here lies in how to avoid this centralized R&D unit losing touch with the needs of the business units — developing innovative concepts that the units do not need or cannot use. Since each type of unit (R&D versus operations) has a different type of primary goal (innovation versus efficiency), each is incentivized and staffed differently, and their preferred solutions are often far apart. The result is often a suboptimal compromise between product attributes and cost, rather than the hoped-for, creatively integrative solution. As a result of these failures, and given the increased volatility of the business and technological context, many of these central R&D units have been dismantled, with a corresponding loss of long-term innovation capability and an increasing reliance on external sourcing of shorter-term innovation options (Arora, Belenzon, Patacconi, & Suh, 2020).

Some corporations, however, have developed effective methods to deal with this challenge. Better-managed corporations draw local business unit leaders into the governance of their central R&D units. They ensure that central R&D teams work collaboratively with staff from the business units on innovation projects (e.g., McCreary, 2010). Instead of allowing central R&D and business units to treat their innovations as their private intellectual property and maximize their unit's profits by charging sister divisions for the use of these innovations as they would charge external customers, they develop collaborative cost-sharing protocols (Eccles, 1983). And they invest in developing the skill base of staff in the business units so they can participate effectively in these projects and help discover integrative solutions (e.g., Schilling et al., 2011).

A democratic-socialist system could follow just such methods to dramatically accelerate innovation and steer innovation efforts towards climate change mitigation and adaptation. Imagine the acceleration in the rate of innovation that would result if enterprises collaborated rather than competed in these innovation efforts, and if we funded democratically governed industry-level and regional R&D centers and chartered them to collaborate with the relevant enterprises. Taking inspiration from the Apollo space program, Mazzucato (2018) identifies several environmental priorities that could be addressed through such government-led R&D "missions." Imagine, too, the acceleration of innovation we would see if we abolished intellectual property laws, and if we invested in the development of the innovative capacity of the entire workforce so everyone can participate.

Innovation would also be accelerated under democratic socialism by expanded opportunities for entrepreneurship. If they proposed new ways of achieving our democratically-determined goals, entrepreneurial ventures could get access to financing from the public investment bank or from existing public enterprises. This would

greatly reduce the impediments to innovation created by our current venture capital system, which sets absurdly high expectations for returns to investment in startups. If they were successful and grew to a certain size threshold, these startups would be bought out at a fair price by the socialized enterprises best placed to deploy their innovations. Would the absence of outsized IPO rewards deter entrepreneurship? This is a question that our scholarship has already asked and answered: no, most innovative entrepreneurship is driven by achievement and social motives rather than by money (McClelland, 1961; Murnieks, Klotz, & Shepherd, 2020).

Efficiency

In their search for efficiency too, many corporations show themselves to be socialists in practice. Instead of assuming that competitive pressure will lead these units to the greatest efficiency, many corporations rely on central staff units to standardize best practices across the entire organization (Münstermann, Eckhardt, & Weitzel, 2010) and optimal component designs (Sanchez & Mahoney, 1996). But employees often resist such regimentation of standardized work processes, and engineers in the business units resist the adoption of standardized components that compromise their ability to meet their target users' needs.

The smartest businesses have developed methods for overcoming this challenge; in particular, they involve front-line staff in their standardization efforts. When standards are not decreed from on high, but are developed jointly by staff experts and front-line personnel, these standards can be designed to support, rather than limit, creativity and judgment, and as result they are experienced as enabling rather than coercive (Adler & Borys, 1996).

In a democratic-socialist system of strategic management for the entire economy, great improvements in efficiency—and in eco-efficiency in particular—could flow from similarly participative efforts to standardize best practices and components. In this new context, we could organize such efforts not only within democratized enterprises but also across entire industries and regions. Such standardization could be simultaneously far more expansive and far more effective than we see today, because it would no longer be limited by competitive rivalry nor dominated by vested corporate interests. We would use this increase in eco-efficiency to reduce dramatically our environmental footprint and our working hours too.

Consider just one possible target of such efforts: the extraordinary volume of electronic waste generated today. In 2019, over 53 million tons of e-waste was generated worldwide, of which only a tiny fraction was recycled (Forti, Baldé, Kuehr, & Bel, 2020). The simple introduction of a universal power adapter for desktop computers would save 300,000 tons of e-waste each year and reduce this source of energy consumption and greenhouse gas emissions by between 25% and 50%. A universal power adapter and charger for mobile devices would save another 82,000 tons of e-waste per year, which amounts to another 13.6 million tons of CO2 emissions annually (Sukenik, 2020).

Motivation

The motivation challenge faced by capitalist firms is well-known. More intrinsically motivating tasks are reserved for the privileged few who work in innovation-oriented functions, where it is not difficult to mobilize collective enthusiasm for shared goals. By contrast, the great majority of people work at jobs that are highly routinized and offer little intrinsic interest. Enriching these routine activities to create more intrinsic interest would require expensive investments in employee skill development. However, better-trained employees can leave for another employer, which would shrink the return on that investment. Under competitive pressure, most firms respond to this challenge by taking the "low road"—relying on purely extrinsic rewards (pay) and external controls (explicit direction and threat of firing), even though the result is a workforce that offers only reluctant conformance rather than real engagement.

Some corporations have developed more effective methods for addressing this challenge. They work hard to maintain the salience of shared goals by creating forums for meaningful participation in defining those goals, making decisions, and formulating policy. People are honored and rewarded for their contributions to the organization's goals and for their ability to collaborate with others in that effort. There is competition, but it is of a collaborative kind (Krishnan, Cook, Kozhikode, & Schilke, 2021). The organization invests in training to develop the capacity of all its personnel to make such contributions. Modest individual financial rewards are paired with modest team financial rewards and with generous symbolic rewards. In this way, organizational policies support a synthesis of individualism and collectivism that we might call "interdependent individualism." (For one example, see Adler, McGarry, Irion-Talbot, & Binney, 2005).

Whereas the capitalist context typically undermines this synthesis in even the most advanced firms—competitive pressures and hierarchical controls often lead managers to make decisions that undermine the sense of shared purpose—a socialist economy would be a far more supportive context, enabling us to implement these methods much more systematically and garner correspondingly greater benefits. The culture of democratic socialism can thereby embrace the emancipatory potential of individualism while transcending the currently prevailing tension between individualism and collectivism. Imagine the benefits. Gallup polling shows that only 33% of US employees are somewhat or mostly "engaged" in their work, while some 51% are "not engaged," and another 16% are "actively disengaged." Apart from the human cost of this disempowerment, the economic and social cost is massive: business units that score in the top quartile of engagement as compared to those in the bottom quartile have 70% fewer safety incidents, 40% fewer product defects, 17% higher productivity, and 21% higher profitability (Gallup, 2017). Imagine the benefits of higher engagement for our long fight against climate change.

Ensuring Accountability

So far, I have argued that the methods of strategic management of advanced capitalist corporations might offer lessons for democratic socialism's strategic management of the economy as a whole. Corporations, of course, are not the only place we can look to for lessons: scholarship in public administration also has much to offer, especially when it comes to some of the other challenges that democratic socialism will face, in particular the challenge of accountability (Bovens, Goodin, & Schillemans, 2014). Many worry that a socialist society, where government has so much more power, will not be able to protect itself against the emergence of a bureaucratic elite, and that democracy will wither as a result and be replaced by authoritarianism. Democratic socialism aims to re-embed the economy in society (Polanyi, [1944] 1968), and government is a key mechanism for doing that; but government today stands outside and above society, often antagonistic to the popular will; so it will be equally essential to re-embed government in society. How can we ensure this double re-embedding?

A democratic socialist society will have one big advantage in tackling that challenge: the democratic quality of public debate will benefit greatly from the socialized ownership of the country's economic resources. As mentioned above, and as many scholars have noted, democracy is profoundly handicapped in capitalist societies by the power of business (Culpepper, 2015; Gilens & Page, 2014). Depending on the country and period, business's "instrumental" power—exercised in the political, public, and private spheres (Nyberg, 2021)—is variable; but business's "structural" power is a core feature of all capitalist economies—flowing from the fact that no government in a capitalist society can afford to pursue any policy that would impair substantially the profitability of wide swathes of the private enterprise sector. Capitalist societies' prosperity depends on that profitability, and any policy strong enough to address climate change would create widespread job losses and market turmoil—conditions that would topple any government. Socialization

would mean the disappearance of the capital-owning business class and its vested interests. On the other hand, however, to protect against authoritarianism, we would also need a constitution that guarantees freedom of speech and assembly and competition among political parties, that regulates election campaigns, and that ensures the rule of law and the civil rights of minorities. And beyond such constitutional protections, we would need to strengthen and enrich democracy with new forms of representation, less subject to domination by elected representatives. Sortition (selection by lottery) presents an attractive alternative, and perhaps it could be scaled up along the lines proposed by Bouricius (2020).

Relatedly, some worry that gargantuan public enterprises would no longer be disciplined by market competition and would therefore be unaccountable. To this concern, I would reply, on the one hand, that the market has provided only a very unreliable form of accountability. Former US Federal Reserve Chair Alan Greenspan could not believe that big banks would willingly endanger their own survival by reckless lending (Grynbaum, 2008): the 2008 crash proved (even to those who had forgotten the Enron debacle) that the much-vaunted discipline of the market was a terribly unreliable accountability mechanism. And on the other hand, democratic socialism could build on our extensive experience with a wide array of mechanisms for ensuring the public accountability of government agencies, whether by legislators, regulators, courts, or public advocacy (Bovens et al., 2014; Chohan, 2017). To avoid public enterprises growing lazy for lack of competition, these enterprises could be put into healthy competition—competition as to who can contribute most effectively to our shared goals—and differentially rewarded depending on their ability to meet those goals. This already happens in better-governed public services (Hubbard, 2009).

A third concern is that expanding democracy from the political to the economic spheres and assuring the democratic accountability of the new decision-making bodies at the enterprise and wider levels would require an inordinate amount of time and expertise from workers and citizens. Socialists respond that a democratically managed economy that is equipped with the technology now at our disposal and that undertakes a serious effort to standardize for eco-efficiency should be able to achieve an environmentally sustainable and materially comfortable mode of life while dramatically reducing the working week, perhaps to 25 hours or less (Coote, Franklin, & Simms, 2010; Pullinger, 2014). Such sizeable reductions in work time, combined with an expansion of civic education, would enable wide and active participation. Democracy would no longer consist of casting a ballot every two years: "governing" would become a regular part of life, alongside working, playing, or shopping. The state would no longer stand above and against society, but would be re-embedded within it.

Prospects for Democratic Socialism

Summarizing the preceding sections, we might conclude that we have at least the contours of a plausible mental model of democratic socialism. That leaves the other key stumbling block: how to get from here to there. Prospects for a democratic socialist transformation seem remote today. Clearly, we cannot expect much support for a program like this from even the more progressive sectors of the business community, even in the face of climate change. To the contrary, we should expect continued strong resistance, even if socialization were to be accompanied by compensation for investors. So, this transition will require a massive, broad-based social movement to overcome corporate vested interests. Just as clearly, no such movement is visible today. Nor do we have much experience yet in building the alliances that would be needed to create and sustain that movement. Moreover, the fight against climate change will require strong coordination and solidarity across countries: democratic socialism on a global scale may once have seemed like a crazy fantasy, but now seems to be a matter of life or death.

This is not the place to discuss how we could create such national and transnational movements, but I would simply point out that crises can sometimes catalyse their formation very rapidly. And such "crisis-opportunities" indeed loom.

First, and to return to this article's starting point, climate change ensures that many countries will have seasons with, say, three or four major storms or heat waves that cripple several regions at once. Effective leadership could transform such crises into powerful calls for mobilization and could create irresistible public pressure to transform radically and rapidly our economies in a more sustainable direction. At that point, a wide swathe of industry could be pulled under democratic control to orchestrate a rapid and equitable ecological transition, and we would see stronger support for international collaboration.

Second, capitalism is a system that experiences periodic economic crises (Reinhart & Rogoff, 2009). In a future major downturn or financial crash, we can imagine there would be wide popular resonance for a democratic-socialist call that insolvent firms and banks should be taken over by government and turned into public enterprises that serve as instruments of public purposes. Once government controls some of the commanding heights of the economy, socialist economic management could get under way and demonstrate its value.

Many progressives see a third scenario, one promising more gradual change. Indeed, in many countries, even in the USA, we can imagine that progressives build enough electoral support to implement stronger environmental regulations, as well as a basket of other social-democratic reforms such as a mandatory worker and community representation on corporate boards. And from there, momentum could build to take still more radical steps, such as nationalizing oil and gas companies so as to manage the rapid phase-out of fossil fuels. And beyond that, support would grow for wider socialization. But we should not underestimate the motivation and the power of the business sector to block such a path of gradual reform via social democracy. So, this path too is likely to lead to crisis—in this case, a political crisis. Such a political crisis might serve as a springboard for a reactionary populism, but could represent an even bigger opportunity for democratic socialist transformation.

I am not suggesting that those who see the need for system change to forestall climate catastrophe should simply wait for such crises: on the contrary, it is vitally important that we do everything we can in the interim to build kernels of the social movement we hope to galvanize. Absent that foundation, crisis can just as easily be an opportunity for right-wing populist demagogues. It is true that socialists are currently poorly equipped for this challenge: over the past half century, we have seen the virtual extinction of the political parties, progressive unions, and solidaristic working-class cultures that incubated socialist ideas and radical movements from the 19th through much of the 20th century. New movements and new organizational forms will be needed for the work ahead. But we have reasons for hope, if not optimism, given the urgency of change that is felt so keenly by so many millions across the world.

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Against the backdrop of the 20th century's experience of authoritarian socialism, a democratic form of socialism seems almost unimaginable; but i submit that it is our best option to deal with the climate crisis. Given the difficult path from here to there, democratic socialism may not seem like a realistic prospect; but it seems far more realistic than the idea that we can solve the major challenge of our time by reforming capitalism. Organizational research can help us understand how such a system could work.

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Notes

1. In the book on which this article is based (Adler, 2019), I discuss environmental unsustainability as one of six "systemic" crises—recurrent and deepening crises that cannot be overcome without transcending the capitalist form of society. The others are economic irrationality, workplace disempowerment, unresponsive government, social disintegration, and international conflict. My basic argument applies to those other crises too. I should note too that the environmental crisis is wider than climate change: we have already overshot several other of our "planetary boundaries," with very dangerous consequences (Steffen, Hughes, & Pearce, 2015), and the argument also applies to many of these other environmental overshoot trends.
2. Yes, some big firms are organized as "holding companies," which leave each business unit very autonomous, or try in other ways to emulate the competitive market in their internal operations (Hamel & Zanini, 2020; Malone, 2004); but many more engage in strategic management processes that coordinate the activities of their various business units (Rigby & Bilodeau, 2018). I am far from the first to note this parallel between the capitalist firm and the socialist economy: Coase quotes an earlier economist, D. H. Robertson, to the effect that firms constitute "islands of conscious power in this ocean of unconscious co-operation [i.e. the market] like lumps of butter coagulating in a pail of buttermilk" (Coase, 1937, p. 388). See also Phillips and Rozworski (2019). For an Austrian critique of this analogy, see Kónya (2020). For a rebuttal of the Austrian arguments against socialism and a corresponding vision of democratic socialism, see Cockshott and Cottrell (1993, 1997). For a vision of democratic socialism that is more accommodating to the Austrian critique, see Adaman and Devine (1996) and Devine (2020). And see Laibman (2007, 2015) for a compelling synthesis of competing democratic socialist models.
3. It should not be necessary, but perhaps useful nevertheless, to point out that decentralization (understood as autonomy) is not a hallmark of democracy. The confusion is shared by the conservative and libertarian right (where freedom "to establish and operate private businesses with a reasonable minimum of registration, licensing, and other requirements" is taken to be an index of democracy: Freedom House, 2021), and the anarchist left (e.g., Bruzzone 2019). Democracy as I understand it is primarily a matter of participation rights, not autonomy.
4. Enterprises would still face tensions, not only between competing views within the enterprise, but also between the interests of the enterprise's workers and those of the community whose resources the enterprise relies on. Moreover, we would still face divergent preferences within local communities, as well as tensions between the interests of the local community and those of the wider national community. All these tensions would present challenges, but they are of a kind that can be resolved through democratic process. By contrast, the tensions between employees and investors in the capitalist firm are resolved not through democratic process but under the "dictatorship" of capital: employees might be consulted, but their input is only advisory; either investors get the returns they seek or they take their marbles elsewhere and the firm collapses (Anderson, 2017).
5. Neither Ostrom-style cooperation nor Coasian bargaining can effectively ensure this coordination, because the most damaging externalities take place too far into the future (our grandchildren do not get to express their preferences on markets today), because the complexity of the problem precludes full information, because transaction costs would be huge, and because the number of participants is too large to control free riding.

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