The Paradox of Social Progress:

From the Old Normal and New Normal Toward a More Desirable Future Normal

Abstract

Much organizational paradox research shows that both/and-technology strategies can turn paradoxical tensions between economic, social, and environmental issues into synergies. We argue that previous research might provide an incomplete picture and that more holistic views are needed. Applying a historical paradox perspective, we propose that since the Industrial Revolution, paradoxically, social progress has increasingly led to significant social problems. In a sociological-historical process model, we explain how this paradoxical dynamic was created in the past ("old normal") and increasingly led to the experience of catastrophic events and global social problems as the "new normal" of the present, how this paradoxical dynamic is partly reproduced in the present, and how nation-states and organizations might shift this dynamic toward a more desirable "future normal" through the use of a new technology strategy. The model advances understanding of both/and strategies by explaining how they may paradoxically follow an unproductive either/or logic and how both/and and either/or strategies can be combined in a synergetic way. Furthermore, the model advances understanding of paradoxical dynamics by identifying a knot in virtuous and vicious cycles.

Keywords: Both/and strategies, global social problems, paradox of social progress, paradox theory, technology and social change

Organizational paradox research focuses on paradoxes—defined as "persistent contradictions between interdependent elements" (Schad et al., 2016, p. 6)—that raise tensions between competing demands when organizations respond to global social problems such as climate change. Paradox studies examine the contradictory and interdependent interrelations between economic, social, and environmental issues (Soderstrom & Heinze, 2019). Much paradox research shows evidence that both/and responses can turn paradoxical tensions into synergies (Collins & Zheng, 2015; Jennings & Hoffman, 2019; Schad & Smith, 2019; Slawinski & Bansal, 2015; Van der Byl & Slawinski, 2015), such as when nation-states, intergovernmental organizations, firms, and other organizations contribute to the development of technological innovations such as electric cars that address economic and environmental goals. Based on previous research, we believe in the importance of both/and strategies and technological innovations as responses to social problems.

However, we also believe that previous studies on creating synergies through both/and strategies and technological innovations provide an incomplete picture due to selecting one social problem, focusing on the organizational level, and/or examining relatively short periods. Accordingly, scholars increasingly call to examine broader social systems and apply historical perspectives to identify paradoxical dynamics that surface at higher levels (Jarzabkowski et al., 2018; Maclean et al., 2016).

From a broader historical perspective, one unexamined paradoxical puzzle is that since the Industrial Revolution, the organized collective development and use of new technologies has contributed to considerable social progress in multiple dimensions, but currently global society is besieged by significant social problems. On the one hand, since the Industrial Revolution, nation-states and organizations have developed and used new technologies that contribute to social progress in establishing desirable accomplishments, such as capitalistic markets and continued economic prosperity, democratic systems, national health systems, and,

more recently, the reduction of human impacts on global warming. On the other hand, individuals around the world discuss "the new normal" as an age of disruptive catastrophic events and social problems such as climate-change-induced natural disasters, poverty and inequality, global economic crises, and pandemics. Addressing this paradoxical puzzle can offer new insights into challenges in the management of paradoxes in general, in response to social problems in particular, and overseen problematic dynamics associated with both/and strategies. Moreover, examining the past and present may provide insights into how future strategies for social progress can influence the historical process toward a more desirable future.

This motivates the guiding proposition of this paper: Social progress increasingly leads to significant social problems. We label this the paradox of social progress. We assume that technology strategies for social progress adopted by nation-states and organizations can influence this dynamic. Against this backdrop, we ask two questions. How have nation-states' and organizations' technology strategies for social progress and the paradox of social progress coevolved since the Industrial Revolution? How can nation-states and organizations shift this dynamic toward a more desirable future? In response, we inform organizational paradox theory (Smith & Lewis, 2011) with the sociological-historical and organizational literature across theoretical backgrounds (e.g. Beck et al., 1994; Mitzinneck & Besharov, 2019). The literature across theoretical backgrounds and disciplines provides us with important insights into social progress, global social problems, and strategies for social progress over time. We develop a sociological-historical process model of the paradox of social progress that describes past and present dynamics. The model also provides initial suggestions on ways of moving toward a more desirable future.

The model contributes to the paradox literature in two ways. First, the model advances our understanding of the interrelations between both/and and either/or logics of strategies. The model provides insights into how previously examined both/and strategies may paradoxically

follow an unproductive either/or logic and how both/and and either/or strategies can be combined in a synergetic way. Second, the model advances understanding of the dynamics of paradoxes by exploring a knot in virtuous and vicious cycles and explaining how the aggregation of a virtuous cycle might be accelerated while decelerating the aggregation of a vicious cycle.

THE PARADOX OF SOCIAL PROGRESS

Organizational paradox research examines a broad range of paradoxes that raise tensions in organizational contexts but also involve the potential to create synergetic relationships through ongoing organizing efforts (Chowdhury et al., 2021; Francis & Keegan, 2020; Hahn et al., 2018; Henry et al., 2020; Pinkse et al., 2018; Putnam et al., 2016; Schad et al., 2016). For example, paradox studies examine how organizations create self-reinforcing cycles between paradoxical poles and turn vicious cycles amplifying undesired results into virtuous cycles that amplify desired results (Pradies et al., 2020; Tsoukas & e Cunha, 2017).

The paradox literature suggests that managing global social problems must involve organizations across sectors embedding sustainability goals into their strategies instead of making choices among them (Soderstrom & Heinze, 2019). In other words, firms (the private sector), public organizations (the public sector), and nongovernmental organizations (civil society) shall integrate economic, social, and environmental goals into their strategies. Research across theoretical backgrounds supports this argument and shows that organizations and national governments address sustainability goals and create synergies (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; George et al., 2012). Moreover, research provides evidence for the importance of the development and use of new technologies in response to social problems (Dahan et al., 2010; George et al., 2012; George et al., 2020; Malen & Marcus, 2019; Voegtlin & Scherer, 2017).

These insights suggest that national governments and public organizations, companies and consumers, nongovernmental organizations and civil society acknowledge the need to address global social problems. Actors who respond to these problems have a relatively shared understanding of how to address these problems. Such actors pursue an inclusive both/and strategy: Actors across sectors and the world participate and collaborate to maintain continuous social progress in multiple dimensions (e.g., economic, political, and health) that is grounded in a profit orientation within national societies *and* that addresses global social problems. All actors shall contribute to and benefit from social progress and the reduction of global social problems through the development and use of new technologies (Dentoni et al., 2021; George et al., 2016; George et al., 2012; Lashitew et al., 2019; Oskam et al., 2021; Rey-Garcia et al., 2021; Woodson, 2016).

One example of such both/and strategies encouraging new technologies, as mentioned above, involves the development of business models for electric cars. The perhaps most prominent example is the formulation of sustainable development goals by the United Nations. Another example is that of cross-sectoral collaboration used to alleviate poverty and inequality through the use of new agricultural products. A fourth example is the ratification of the Paris Agreement on climate change that stresses the importance of an energy transition toward the exclusive supply of renewable energy based on new technologies. Nation-states and organizations shall develop and apply new technologies to pursue their own interests through increasing social progress within their national societies founded on a profit orientation and simultaneously address global social problems such as climate change and inequality.

Based on these insights, we share with scholars and practitioners the belief that both/and strategies supporting the development and use of new technologies are a central pillar in response to global social problems. For example, how can address climate change despite the rapid expansion of the human population, which needs resources to live, without technological

innovations that need to be financed by people with capital and developed by well-educated experts such as engineers? How can we reduce social inequality and poverty without agricultural technologies, education, and financial means? Thus, following an either/or strategy that addresses global social problems while arguing against the use of technological innovations and social progress in developed countries is difficult to imagine. From a paradox perspective, either/or strategies against social progress grounded in a profit orientation—for example, degrowth strategies (D'Alisa & Kallis, 2020; Mikkelson, 2019)—put modern accomplishments such as welfare, public health systems, and mass education at risk because economic prosperity builds their foundation. Moreover, degrowth may hinder the management of global social problems. In contrast, much literature provides evidence for the argument that both/and responses can create synergies (Smith et al., 2013; York et al., 2018). Moreover, one can read history since the Industrial Revolution as a success story of the development and use of technologies to achieve social progress in multiple dimensions.

However, at the same time, today, actors around the world face significant social problems. In an emerging public debate on the so-called "new normal," practitioners and researchers contend that we live in an age of disruptive catastrophic events and social problems and ask how society can move toward a more desirable future normal (Brammer et al., 2020). Accordingly, organizational scholars are wondering why global society faces such social problems despite new technologies and social progress in establishing modern accomplishments such as capitalistic markets that lead to continued economic prosperity, democratic systems, and human rights (George et al., 2016).

In this paper, we turn this question on its head by arguing that global society faces significant social problems not in spite of but because of enormous social progress. Logically, social progress and the production of significant social problems contradict each other because social progress implies the reduction of social problems (Tönnies, 1998). However, we propose

that, paradoxically, social progress leads to considerable social problems. We call this outcome-irony paradox the paradox of social progress. Two paradoxical demands are associated with this paradox. One is social progress in multiple dimensions (e.g., economic prosperity, stable democratic systems, and individual freedom) grounded in a profit orientation within national societies, which we call "social progress" as convenient shorthand. The other demand is the simultaneous reduction of global social problems (e.g., climate change, poverty and inequality, global financial crises, and global pandemics). These goals are currently desired results of scholars and practitioners. Accordingly, for conceptual clarity, in a virtuous cycle, social progress and the reduction of global social problems would amplify each other. In contrast, in a vicious cycle, the reduction of social progress and reinforcement of social problems amplify each other.

We know that the paradox of social progress is a broad concept since we consider multiple dimensions of social progress and do not specify global social problems. As mentioned above, we understand social progress as progress in establishing accomplishments that are desirable for a broad mass of individuals, such as economic prosperity, democracy, health, and individual freedom. We understand global social problems as complex problems that actors face around the world and that have far-reaching implications for global society. These problems are also labeled grand challenges or wicket problems (George et al., 2016; Grodal & O'Mahony, 2017; Reinecke & Ansari, 2016). We purposefully do not reduce the paradox of social progress to a selection of global social problems and acknowledge that each global social problem requires specific research to provide a more nuanced and detailed understanding than we can provide in this paper.

However, in acknowledging shortcomings regarding details, we aim for a broader historical view that grasps the dynamics of dominant strategies for social progress by nation-states and organizations and interconnected global social problems over time. Applying a

broader historical view can offer new important insights into overseen dynamics in response to global social problems of previous research and advance theory (Maclean et al., 2016; Schad & Bansal, 2018). This motivates us to ask two questions. How have nation-states' and organizations' technology strategies for social progress and the paradox of social progress coevolved since the Industrial Revolution? How can nation-states and organizations shift this dynamic toward a more desirable future?

To answer these questions, in the next section, we apply paradox theory and inform it with historical-sociological and organizational research across theoretical backgrounds. The historical perspective enables us to examine the past and the "old normal" to better understand the "new normal" and present strategies of managing the new normal. This analysis can provide new insights into possible future strategies that may contribute to a more desirable "future normal." We develop a sociological-historical process model of the paradox of social progress that identifies similarities and differences of past and present dynamics of strategies for social progress, social progress, and global social problems. These insights build a foundation for our normative argument on how nation-states and organizations may achieve a more desirable future.

SOCIOLOGICAL-HISTORICAL PROCESS MODEL OF THE PARADOX OF SOCIAL PROGRESS

In this section, we develop the sociological-historical process model. First, the model shows how dominant technology strategies for social progress adopted by nation-states and organizations and the paradox of social progress have coevolved since the Industrial Revolution. Second, the model explains how nation-states and organizations may shift this dynamic toward a more desirable future. Figure 1 depicts the model.

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The model includes three phases: 1) the old normal in place from the Industrial Revolution to the post-World-War II era, where the paradox of social progress was created and reproduced; 2) the emerging new normal of the post-World-War II era, during which actors increasingly experience and respond to the new normal; and 3) the more desirable future normal of a possible post-COVID-19 era, during which nation-states and organizations could contribute to a shift from the new normal to a more desirable sustainable global society. For each phase, we describe dynamics among dominant strategies, social progress, and global social problems. Figures 2 to 4 depict these dynamics of each phase.

We present the first two phases descriptively from a paradox perspective informed by the interdisciplinary literature. For the third phase, we explicitly adopt this perspective to normatively envision how nation-states and organizations may contribute to a more desirable "future normal." We illustrate our argumentation in the text with one example, i.e., the global social problem of climate change and the car (the replacement of combustion engine cars with electric cars) as a technological innovation, while other examples are listed in Table 1. Table 1 cites a broad range of different global social problems to support the generalizability of our argumentation.

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Since we aim to identify fundamental differences and similarities in the coevolution of strategies for social progress of actors that appear at the meso level (i.e., nation-states and organizations) and the paradox of social progress as a macrophenomenon among the three phases, we neglect differences in strategies found within the phases. In the discussion, we

suggest how future research can apply more fine-grained views to examine differences, especially in terms of new strategies in response to the paradox of social progress.

The Old Normal: The Paradox of Social Progress from the Industrial Revolution to Post-World War II Era

Figure 2 represents the argument posed in this section. We argue that during "the old normal" (approximately from the Industrial Revolution to the post-World War II era), nation-states and organizations developed and used new technologies to achieve social progress in multiple dimensions (e.g., economic prosperity, mobility, and comfort) grounded in a profit orientation. However, these actors neglected the emergence of global social problems in other dimensions (e.g., climate change). As the sociological-historical literature suggests, nation-states understood national progress grounded in a profit orientation and the management of global problems as trade-offs and focused on social progress within national societies (Beck, 2006; Beck & Grande, 2007). Moreover, intergovernmental organizations such as the United Nations addressing social progress within national societies and global social problems did not exist. Firms mainly pursued profit maximization through the development and use of new technologies but did not pursue the reduction of global social problems. Companies neither incorporated sustainability goals into their strategic goals nor included specialized divisions for corporate social responsibility. Firms based on business models addressing social problems such as inequality or climate change also did not exist. We label these strategies "either/or-technology strategies" as convenient short hand (see Figure 2).

We argue that either/or-technology strategies contributed to the creation of a virtuous cycle between new technologies and social progress within national societies as intended consequences (see the virtuous cycle in Figure 2). However, this cycle simultaneously fueled a vicious cycle in which the production of social problems and the reduction of social progress mutually reinforced each other. More specifically, social progress in certain dimensions (e.g.,

mobility) led to global social problems as unintended negative consequences (e.g., climate change). This effect in turn began to reduce social progress in these dimensions, from which national societies and organizations benefit (see the vicious cycle in Figure 2). The reproduction of this dynamic contributed to the "new normal."

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For example, since the 19th century, governments, firms, and public organizations have contributed to the organized development, production, widespread use, and improvement of technological innovations such as the combustion engine car, and associated with the car, the assembly line for mass production. Since this time, the invention of the car has contributed to economic prosperity, mobility, comfort, and social progress in other dimensions in many nations around the world. Conversely, social progress, particularly economic prosperity, facilitated the development of new technologies and the improvement of the car because individuals were able to consume and contribute to the development and production of new cars (see the virtuous cycle in Figure 1). As this example and others illustrate (see Table 1), nation-states and organizations achieved the creation of a virtuous cycle between new technologies and social progress.

However, we also know that social progress produces social problems as unintended negative consequences (Arnoldi, 2009; Beck, 2009, 2016; Giddens, 2009; Stuart et al., 2012), defined as consequences that are negatively valued and not intended by a broad mass of people (Beck, 1992). In the example the combustion engine car, one negative consequence is that of climate change, and thus social progress also produced social problems. Moreover, these problems (e.g., climate change) began to reduce social progress in certain dimensions (e.g., economic prosperity) through technologies (e.g., cars with combustion engines) that

contributed to this progress and thus backfired for those people who benefited from progress in these dimensions (e.g., shareholders of automotive manufacturers). In our example, climate change reduces the market potential for cars with combustion engines and thus the contribution of cars with combustion engines to economic prosperity (see the vicious cycle in Figure 2).

We find the same dynamic for other global social problems (see Table 1), and hence we argue that this dynamic points to a generalizable principle that we introduce as the paradox of social progress: Since the Industrial Revolution, social progress has led to significant social problems. Our argument is that this is attributable to unintended negative consequences of technology-based social progress in an increasingly complex global society. More specifically, it may be that technological advances (e.g., technologies for transport, mobility, and communication) contribute to an increasingly interconnected world and social progress within national societies by extending relations among actors within and across nations by enhancing trade, partnerships, and competition around the world (Beck, 2000; Wallerstein, 2011).

Another associated reason is that progress in an increasingly complex global society rests on increasingly complicated high-tech machines that present likely or even unavoidable risks of unknown and known but accepted unintended negative consequences that may contribute to significant global social problems (Beck, 2016; Hardy et al., 2020; Luhmann, 2003; Perrow, 2011). In other words, social progress within national societies in certain dimensions (e.g., economic prosperity, mobility, and comfort) tends to produce problems in other dimensions (e.g., human impacts on climate change).

A third reason why global social problems (e.g., climate change) slightly but increasingly reduce social progress (e.g., economic prosperity) is associated with the spread of communication technologies and, later, digital technologies, which further globalize society and demark the transition toward the emerging “new normal” (Baum & Haveman, 2020; Beck, 2009). The ubiquity of significant social problems, time pressures of managing them, increasing

expert knowledge, and the increasing spread of information in a digital and globalized world make ignoring and not being emotionally affected by catastrophic events, risks, and significant social problems increasingly difficult and let individuals experience a new normal (Beck, 2016; Giddens, 1984; Giddens, 1990). Stakeholder pressures on governments, political parties, firms, and other organizations to address global social problems become increasingly high and delegitimize the production and use of technologies that contribute to global social problems (e.g., cars with combustion engines) (George et al., 2020; Stahl et al., 2020). This, in turn, reduces the potential for these technologies to contribute to social progress (e.g., economic prosperity and mobility).

This dynamic requires understanding the historical process since the Industrial Revolution not only as a success story of social progress through technological innovation but also considering the production of significant social problems integral to the "old normal." If one neglects the vicious cycle, one observes continuous social progress. Considering that vicious cycles relativize societal progress, this view may even question whether at one point in time, social progress may lead to social regression because of the catastrophic extent of global social problems.

Experiencing global problems that are increasingly pressing and that reduce progress as the "new normal" leads to an adaption of strategies from either/or-technology to both/and-technology strategies, which become dominant strategies, as we will argue in the next section. We will show that the described coevolution of the dominant strategy of the past and the paradox of social progress help us better understand present both/and strategies examined in previous literature and their influence on social problems.

The Emerging New Normal: The Paradox of Social Progress in the Post-World War II Era

Figure 3 illustrates the main argument made in this section. We argue that the emerging "new normal" (in the post-World War II era) leads to an increase in both/and-technology strategies of developing and using new technologies to address social progress in multiple dimensions (e.g., economic prosperity, mobility, and comfort) grounded in a profit orientation *and* address global social problems (e.g., climate change). These strategies contribute to the creation of a virtuous cycle in which social progress and the reduction of global social problems reinforce each other. Previous research provides considerable evidence for this argument (Battilana & Dorado, 2010; Beck, 2016; Beck & Grande, 2007; Leyva-de la Hiz et al., 2019; Schneider & Clauß, 2020; Testa et al., 2018; Van der Byl & Slawinski, 2015; York et al., 2018). However, this picture of managing societal problems through both/and strategies is incomplete because—as we argue further—both/and strategies simultaneously reproduce dynamics of the "old normal" described in the previous section.

More specifically, both/and-technology strategies reproduce the previously described virtuous cycle between new technologies and social progress (see the virtuous cycle between both/and-technology strategies and social progress in Figure 3). In addition, present both/and strategies achieve that the described virtuous cycle fuels another virtuous cycle, one between social progress (e.g., economic prosperity, mobility, and comfort) and the reduction of social problems (e.g., climate change) (see the minus sign and arrow from social progress to social problems and the plus sign and arrow from social problems to social progress in Figure 3). However, these strategies lead to other unintended negative consequences (e.g., small children in Congo mining for cobalt used in car batteries). These consequences reproduce the vicious cycle between the reinforcement of global social problems (e.g., inequality) and the reduction of social progress (e.g., the competitiveness of firms that use cobalt mined by small children

and the market potential of electric cars) (see the plus sign and arrow from social progress to social problems and the minus sign and arrow from social problems to social progress in Figure 3). We indicate the virtuous and vicious cycle between progress and problems as knotted (see Figure 3) because we argue that the interrelations between these cycles might be unresolvable.

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For example, national governments, the European Union, public research centers, firms, and nongovernmental organizations contribute to the development and use of electric cars. The development and improvement of electric cars and their components (e.g., batteries and intelligent communication systems) contribute to the market penetration of electric cars and associated social progress (e.g., economic prosperity, less noise, increasing safety, fewer traffic jams, increased car acceleration, and longer distances traveled). Social progress in turn provides nation-states and organizations with legitimacy and financial means to pursue their both/and-technology strategies and push the market penetration of the electric car forward (see the virtuous cycle between both/and-technology strategies of social progress in Figure 3).

Moreover, social progress associated with the electric car leads to the replacement of combustion engine cars that emit carbon dioxide, which contributes to the reduction of climate change (see the minus sign and arrow from social progress to social problems in Figure 3). The decreasing use of vehicles with consumption engines, in turn, triggers further investments in new instead of old technologies, which also strengthens the acceptance and use of electric cars, which reinforces social progress (e.g., economic prosperity, less noise, and fewer traffic jams) (see the plus sign and arrow from social problems to societal progress in Figure 3).

However, this dynamic bears risks of unknown unintended negative consequences and has known negative consequences that might not be intended but are accepted. For example,

the rising use of electric cars requires the use of more cobalt that is also mined by small children in Congo, which reinforces social inequality (see the plus sign and arrow from social progress to social problems in Figure 3). The reinforcement of global social problems, in turn, may slightly but increasingly reduce social progress in other dimensions through the electric car, as our analysis of the past suggests. For example, for stakeholders such as employees and investors, the sustainability of firms becomes increasingly important (George et al., 2020; Stahl et al., 2020). Hence, capable individuals might decide against working for a firm that accepts child labor in their supply chain and investors might invest in other companies or industries and thus contribute to the reduction of the competitiveness of automotive firms that accept child labor and perhaps even to the market potential of the electric car industry (see the minus sign and arrow from social problems to social progress in Figure 3).

We argue that this dynamic may relate to other problems (see Table 1). One reason for this is that new technologies might be key to addressing social progress and global social problems. Hence, both/and-technology strategies may contribute to the creation of a virtuous cycle between new technologies and social progress, which fuels the second virtuous cycle, i.e., between social progress and the reduction of social problems, contributing to the legitimization and dominance of both/and-technology strategies.

At the same time, however, social progress and the reduction of global problems grounded in new technologies bear risks of unintended negative consequences and might make it impossible to avoid unintended negative consequences in an increasingly complex society (Beck, 2016; Beck et al., 1994; Perrow, 2011), which might be one reason for the systemic production of unintended negative consequences of both/and-technology strategies.

The legitimacy of both/and-technology strategies and unintended consequences might be attributable to knowledge of the challenge (and perhaps impossibility) of avoiding unintended negative consequences. This knowledge may legitimize unintended negative consequences,

including those that are well known and might be avoidable. If the impossibility of unintended effects is widely accepted, then the legitimacy of both/and-technology strategies remains because nation-states and organizations accept their unintended consequences as the cost required to achieve the strategies' intended effects. Because of this, alternatives to both/and-technology strategies that may bear the risk of reducing social progress and profit and, moreover, might not address global social problems appear not to be a serious option for a large group of scholars and practitioners.

As indicated above, with the exception of a small minority that argues for degrowth (Nesterova, 2020), which might provoke new unintended negative consequences, scholars and practitioners argue for and pursue both/and-technology strategies that shall maintain continuous social progress in multiple dimensions (e.g., economic prosperity, individual freedom, and mobility) grounded in a profit orientation within national societies *and* reducing global social problems. The literature on paradoxes (Van der Byl et al., 2020), hybridity (Savarese et al., 2020; Tabares, 2021), inclusive innovation (Pansera & Owen, 2018), sustainable entrepreneurship (George et al., 2020; Poldner et al., 2017; Tarnanidis et al., 2019), social entrepreneurship (Hota et al., 2020; Lall & Park, 2020; Mitzinneck & Besharov, 2019), responsible innovation (Arthur & Owen, 2019; Owen et al., 2021), institutional change (York et al., 2018), and other areas (Reinecke & Ansari, 2016) reflects this position.

This dominance of both/and-technology strategy reminds us, in a problematic sense, of Kant's (2002) categorical imperative. Kant (2002) developed a categorial imperative as an ethical law that shall achieve the persistence of a natural law if one behaves reasonably. If humans act reasonably, they need to follow this law similar to an object that necessarily falls to the ground due to the natural law of gravity. The imperative in response to global social problems, particularly for powerful nation-states and firms, can be formulated as follows: *Either* we address continuous social progress in multiple dimensions *and* the mitigation of

global social problems *or* we do not address the mitigation of global social problems. Responses to global societal problems only appear in theory and practice to be reasonable if they can contribute to social progress grounded in the profit orientation of developed and powerful actors—despite their negative consequences.

Thus, the dark side of both/and strategies is that they appear in theory and practice to be the only reasonable scalable solutions without alternatives and thus–paradoxically–follow an either/or logic. The imperative of both/and strategies as a taken-for-granted premise in response to global social problems hinders scholars and practitioners from reflecting on alternatives or complementary approaches as serious options, particularly for those alternatives that address both social problems *and* known unintended consequences of addressing social problems if they bear risks of reducing social progress and profit. In other words, the either/or logic constituted by the dominance of both/and strategies that we express with the imperative involves another "either/or" aspect: Organizations and nation-states decide to address social problems but are against the avoidance of known unintended negative consequences.

However, over time, particularly *known* negative consequences may reduce social progress in different dimensions and backfire for those actors who benefit from progress in these dimensions. One characteristic of the "new normal" is increased stakeholder pressures on organizational and national actors. During the "old normal," there was no need for firms and political parties to embed sustainability goals into their strategies and programs. Today, these actors have to consider such goals. Increasingly, stakeholders do and probably will not accept known negative consequences. The more pressing social problems become, the more stakeholders may delegitimize known negative consequences, exacerbating the risk of reducing social progress in other dimensions and backfiring for actors (e.g., nation-states, shareholders of firms, and employees) who benefit from this progress.

In summary, both/and strategies of the "new normal" are more promising than either/or strategies of the "old normal" that do not address global societal problems, reflecting is the positive side of both/and strategies. However, both/and strategies of the "new normal" still reproduce the vicious cycle that has aggregated since the Industrial Revolution and that appears at the global level. This development raises the question of whether at one point in time social progress might turn into social regression because the extent of global problems is too high and the imbalance between vicious and virtuous cycles is too strong.

This is why we suggest that current both/and strategies might be insufficient and that global society requires other more courageous ones. In the next section, we describe initial ideas on how organizations and nation-states could contribute to a more radical change from the new normal and toward a more desirable future, i.e., the emergence of a sustainable global society from both/and strategies that integrate either/or strategies.

Toward a More Desirable Future Normal: The Paradox of Social Progress in a Possible Post-COVID-19 Era

Figure 4 represents the main argument presented in this section. We argue that in developing toward a more desirable "future normal" (a possible post-COVID-19 era), dissolving the vicious cycle might not be possible because of the persistence of the paradox of social progress in place since the Industrial Revolution. However, decelerating the vicious cycle and accelerating the virtuous cycle might be achievable. Building on our examination of past and present strategies, we argue that for this purpose, it is central to pursue an avoidance of known unintended negative consequences through the development and use of new technologies and to take responsibility for the whole supply chain.

More specifically, we argue for two points concerning future strategies. First, we recommend both/and-technology strategies that develop and use new technologies to both fuel the described virtuous cycle *and* avoid known negative consequences to decelerate the

described vicious cycle. We indicate this with a dotted line in Figure 4 to symbolize a partial interruption of the vicious cycle, i.e., concerning certain processes addressing social progress, problems, and known negative consequences. Second, these both/and strategies shall be combined with "reversed either/or-technology strategies" that address global social problems but neglect social progress in other dimensions for a subgroup of global society if both/and strategies have known negative consequences that are unacceptable from an ethical point of view. We believe that such strategies could also accelerate the virtuous cycle in the medium term because more ambitious goals may trigger better solutions, and nation-states and organizations pursuing this strategy may achieve a competitive advantage through their strong contributions to social progress and the reduction of social problems. As with any strategy, this strategy bears the risk of failing and leading to the opposite results to the intended ones. However, based on our previous analysis, we believe that the intended results are achievable.

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For example, organizations could put more effort into exploring new technologies that avoid the use of elements such as cobalt, and firms could include poor regions in the supply chain of electric cars but create conditions that prevent known negative consequences. New communication technologies facilitate the inclusion of the poor and the transparency of the supply chain in taking responsibility (George et al., 2020). In this way, firms avoid exacerbating social inequality in their value creation process and fueling the vicious cycle.

Moreover, firms may integrate the mitigation of climate change into their goals by developing and producing electric cars but also dedicating more effort to doing this in a more energy-efficient way based on the use of renewable energy. For example, automotive firms can

invest in the production of electricity based on renewable energy. This could accelerate the virtuous cycle between the reduction of climate change and social progress associated with electric cars (e.g., economic prosperity and less noise). Additionally, governments could incentivize the development and use of new technologies that prevent (or strongly reduce) known negative consequences and take responsibility for the whole supply chain.

If firms achieve such more ambitious goals of addressing social progress and social problems without producing (or with significantly fewer) known negative consequences, they contribute to the acceleration of the described virtuous cycle *and* the deceleration of the described vicious cycle. Moreover, as noted, this both/and strategy may lead to a competitive advantage for firms and nation-states as attractive locations for firms and individuals because contributions to the reduction of social problems become increasingly relevant for stakeholders.

If such ambitious goals lead to disadvantages in the short run, nation states and firms may need to accept these disadvantages to a certain degree for a certain period to avoid known negative consequences before they pursue a strategic change. In other words, as part of this strategy, nation-states and firms may temporally pursue an either/or strategy that favors addressing global social problems at the expense of social progress in other dimensions, from which they benefit in the short term. If our analysis shown in the previous section is correct, it is possible that nation-states and organizations may benefit from such decisions in the medium term because known negative consequences may reduce progress in other dimensions and backfire for nation-states and firms accepting known negative consequences.

We believe that the suggested strategy might be appropriate for addressing social progress in multiple dimensions and on different global social problems, although future research needs to identify and examine such strategies (see Table 1). Hence, we argue for a combination of both/and and either/or strategies. Paradoxically, we argue for a new both/and strategy that adopts both both/and strategies *and* either/or strategies. As noted, particularly when both/and-

technology strategies have known negative consequences, temporally pursuing an either/or-technology strategy should be considered. This might be not completely pain-free. However, in the medium and long term, organizations and nation states pursuing the suggested strategy may achieve a competitive advantage, and all might benefit from a desirable future, i.e., a more sustainable global society.

DISCUSSION

In this paper, we asked two questions: How have nation-states' and organizations' technology strategies for social progress and the paradox of social progress coevolved since the Industrial Revolution? How can nation-states and organizations shift this dynamic toward a more desirable future? In response, we developed a sociological-historical process model of the paradox of social progress. The model describes past and present dynamics and makes assumptions about how nation-states and organizations might be able to influence these dynamics toward the development of a more desirable future. In the following, we discuss two important contributions of the model to the paradox literature: limitations and opportunities for future research.

As the first contribution of our model, it advances understanding of the interrelation between both/and and either/or logics in strategies. Paradox theory clearly distinguishes between both/and and either/or categories (e.g., strategies and thinking) (Lewis, 2000; Poole & Van de Ven, 1989; Smith, 2014) and positions itself as a response to research that argues that organizational success depends on clear choices, i.e., either/or strategies (Barnard, 1938; Thornhill & White, 2007; Trigeorgis & Reuer, 2017). The paradox literature increasingly offers insights into how embedding paradoxes into the strategic goals of organizations reinforces creative both/and approaches to manage competing demands simultaneously (Hahn et al., 2015; Smith, 2014; Smith et al., 2010; Smith et al., 2011; Smith et al., 2016). Recently, scholars examined the dark side of paradoxes (Feix & Philippe, 2020; Gaim et al., 2019), for example,

how they restrict capabilities to manage tensions(Berti & Simpson, 2019). However, little is known about the dark side of both/and strategies, i.e., of purposefully embedding paradoxes into strategic goals to inspire both/and approaches to managing them.

Our study suggests that a both/and strategy–paradoxically–also follows an either/or logic if it aggregates toward a global approach and excludes either/or approaches and other possible responses as alternatives. Smith (2014) shows how balancing either/or decisions for one and the other goal at the micro level aggregates to a both/and approach at the organizational level. Our model suggests that both/and-technology strategies that pursue social progress within national societies grounded in a profit orientation and the reduction of global social problems appear to be the categorical imperative for managing social problems. This imperative paradoxically follows an either/or logic: *Either* we address social progress *and* the mitigation of global social problems, *or* we do not manage global social problems. The dominance of such categorial both/and strategies and their underlying assumptions exclude alternatives as serious options and narrow the scope of reflecting on alternative approaches. These insights suggest that both/and and either/or categories are not clearly separable but paradoxically interrelated. Moreover, these findings advance understanding of the dark sides of both/and strategies regarding if they exclude other responses to paradoxes as serious options. Our model suggests that this prevents putting effort into strategies in response to global social problems that address both global social problems *and* known negative consequences of managing them.

Relatedly, our study advances paradoxical both and thinking by integrating "either/or" logic into "both/and" logic. Our model suggests managing the paradox of social progress by applying a strategy that follows a new both/and logic by combining both/and *and* either/or strategies. In our study, this combination facilitates the mitigation of global social problems *and* of unintended negative consequences of these responses. Much research is needed to identify and better understand such strategies. Our paper assists in identifying them and

developing them theoretically and provides a starting point to advance understanding of how paradoxical demands such as social progress grounded in a profit orientation and global social problems can be managed. In short, our model suggests that both/and and either/or strategies are paradoxically interrelated, which involves dark sides but also the potential for creative strategies to manage paradoxical demands.

As our second contribution, our model advances understanding of the dynamics of paradoxes. Paradox studies offer important insights into the dynamic relationships between the poles of paradoxes (Schad et al., 2016; Smith et al., 2017). More recently, scholars have shown how poles of different paradoxes are constituted, reproduced, and dynamically knotted (Sheep et al., 2017). The literature on knotted paradoxes shows that two poles of one paradox may be interrelated with two poles of another paradox. Our model explains how the paradox dynamic of past times that led to social progress and global social problems of current times moves into the paradox dynamic of a virtuous cycle knotted with a vicious cycle. Our contribution extends from knotted paradoxes to the knots of self-reinforcing vicious and virtuous cycles, meaning that not poles of more than one paradox are dynamically knotted but rather contradictory dynamics between the same poles.

More concretely, our model suggests that creating and accelerating the aggregation of a virtuous cycle (in our study: between social progress and the reduction of social problems) does not necessarily lead to a desirable outcome (in our study: a sufficient reduction of global social problems) because of the simultaneous production and aggregation of the vicious cycle (see Figure 3). Keeping the virtuous and vicious cycles separate demonstrates this. For example, currently, actors pursue both/and-technology strategies and contribute to the aggregation of a virtuous cycle between the reduction of human impact on climate change and social progress in other dimensions (e.g., economic prosperity and mobility) through the development and production of electric vehicles. At the same time, these strategies may fuel a vicious cycle

between the reinforcement of social inequality and the reduction of social progress through the acceptance of child labor in the supply chain.

These insights are central to better understanding the complex dynamics of paradoxes that are enacted as part of approaches to manage them and can help future research systematically examine different types of paradoxes and explore whether and how the creation of synergies simultaneously produces unintended consequences that fuel vicious cycles. To better understand the management of the paradox of social problems, these insights are particularly important because they show how multiple social problems and responses to them might be dynamically interrelated.

Moreover, the identified knot of vicious and virtuous cycles allowed us to make initial suggestions for addressing interrelated global social problems. Instead of aiming to replace a vicious cycle with a virtuous cycle, strategies could aim at accelerating the aggregation of the virtuous cycle and decelerating the aggregation of the vicious cycle (see Figure 4). Notions of acceleration and deceleration also advance understanding of managing paradoxes. Previous research offers insights into how organizations fuel virtuous or vicious cycles and succeed or fail in turning vicious cycles into virtuous cycles (Pradies et al., 2020; Sundaramurthy & Lewis, 2003). Our study offers a less dichotomous view that does not reduce the management of vicious cycles to solving them or turning them into virtuous cycles and suggests that decelerating vicious cycles and accelerating virtuous cycles as ways of managing paradoxes if vicious cycles cannot be addressed.

Limitations and Future Research

Because of the broad historical view that enabled us to advance paradox theory and offer new insights into the management of global social problems, our study has shortcomings regarding its details. To address these shortcomings, we suggest that researchers follow two pathways to advance understanding of the paradoxical dynamic between societal progress and global

societal problems. One method involve examining both/and strategies that creating virtuous cycles, reproducing the vicious cycle of past times and refining the dynamics we describe (see Figure 3). The second method involve examining alternative strategies that contribute in accelerating the virtuous cycle and decelerating the vicious cycle that we normatively propose (see Figure 4). For example, researchers may identify innovative entrepreneurs who are fundamentally different in how they develop and use new technologies. Researchers may also explore how organizations and societies combine societal progress with the reduction of global societal problems in fundamentally new ways.

For this purpose, paradox theory offers a fine-grained perspective from which to examine the emergence, the reproduction, and changes in tensional dynamics (Fairhurst et al., 2016; Lewis & Smith, 2014). Such efforts might also benefit from combining organizational paradox theory with sociological-historical theories more explicitly than is done in this paper. In particular, Beck's and Gidden's work on reflexive modernization and risk society offers helpful concepts and insights on this area (Beck, 1992, 2009; Beck et al., 1994; Hardy et al., 2020). We propose two issues that could be explored to advance understanding of the paradox of social progress:

One issue concerns the historical process of reflexive modernization and its local differences. The theory of reflexive modernization suggests a process of reflexive modernization through which actors around the world increasingly reflect on and respond to the ubiquity of catastrophic events and risks of future catastrophic events as a result of industrial modernization, leading to social changes (Giddens, 1994). Furthermore, scholars argue that according to different cultures and national histories, this process varies locally in terms of pace and outcomes. For example, threshold countries currently run through a process of industrial modernization, while developed countries run through a process of reflexive modernization; in Europe and the US, this process is anchored in a capitalist-democratic system, while in China,

a new economic-political system is emerging. Future research could examine how such historical differences influence the management of the paradox of social progress within and across regions and national societies at present.

A second issue concerns risk construction involved in responses to global social problems, which concerns how actors perceive, communicate, and enact risks. Whereas current research suggests increasing awareness of risks concerning social problems, we know little about how actors perceive and communicate risks concerning responses to these problems. Future research could examine how organizations and other collective actors construct risks concerning global social problems and how this construction influences legitimacy judgments about responses, the responses themselves, and their influence on social progress and social problems and thus on social change.

CONCLUSION

In this paper, we developed a sociological-historical model of the paradox of social progress. Our motivation was not to argue against both/and-technology strategies but to offer a critical view of both/and strategies to build foundations for advancing them and rethinking the both/and logic, for example, by examining how both/and logics *and* either/or logics can be combined to strengthen both/and approaches. We hope that our paper contributes to a stronger understanding of the significant global social problems of current times, inspires future research and practice, and thus makes a small contribution to the management of global social problems.

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TABLES

TABLE 1

Examples Supporting the Sociological-Historical Process Model of the Paradox of Social Progress

The Old Normal (Industrial Revolution— Post-World War II Era)	**The New Normal** (Post-World War II Era)	**Desirable Future Normal** (Possible Post-COVID-19 Era)
Social problem: Global poverty and inequality		
Either/or-technology strategies: Nation-states and organizations supporting new technologies for agriculture and production to make social progress grounded in a profit orientation **Virtuous cycle:** between *technological innovation* (e.g., the steam engine, standardized mass production, agricultural machines, agrochemical fertilizers and pesticides, and technologies for the international transportation of products) and *social progress within national societies* (e.g., economic prosperity and associated products and services, the reduction of poverty and inequality within national societies after pauperism, individual freedom, and public health systems) **Vicious cycle:** between the *reinforcement of global poverty and inequality* (e.g., increasing colonialism and unfair trade with poor nations) and the *reduction of social progress within national societies* (e.g., decreasing market potentials in developed countries through saturation and low development of market potentials in developing countries)	**Both/and-technology strategies:** Nation-states and organizations supporting new technologies for agriculture and production to make social progress grounded in profit orientation *and* reduce global poverty and inequality **Virtuous cycle I:** between *technological innovation* (e.g., providing developing countries with production machines, agricultural machines, agrochemical fertilizers and pesticides, electricity, telecommunication, and digital technologies) and *social progress within rich national societies* (e.g., cost-efficient production and slightly increasing market potentials in developing countries) **Virtuous cycle II:** between *social progress within rich national societies* (e.g., see forms of social progress listed above) and the *reduction of global poverty* (e.g., increasing market access of the poor as customers and suppliers and increasing productivity to reduce famine). **Vicious cycle:** between the *reinforcement of climate change, air pollution, and global inequality* (e.g., increasing carbon-dioxide emissions through the globalization of production and transport, decreasing productivity in poor regions through global warming, water shortages, lacking representation of the interests of the poor, and dependencies of technologies of the rich by the poor such as specific pesticides) and the reduction of social progress within rich national societies (e.g., risk of mass migrations from poor to rich nations, political instability within rich nations, and	**General questions for future research on the combination of both/and-and reverse either/or-technology strategies:** • How do organizations aim at reducing impacts on climate change and air pollution when they address profit goals *and* the reduction of global poverty and inequality? • How do organizations apply both/and and either/or strategies? • What are organizations' impacts on the paradox of social progress? • Do organizations achieve a competitive advantage? • How do nation-states support such strategies? What are their strategies?

	continually low market potentials in developing countries)	
Social problem: Climate change and air pollution associated with increasing energy consumption		
Either/or-technology strategies: Nation-states and organizations supporting new technologies of energy supply based on fossil fuels to make social progress grounded in a profit orientation **Virtuous cycle:** between *technological innovation* (e.g., e.g., coal-fired power plants, gas-fired power plants, and oil rigs) and *social progress within national societies* (e.g., economic prosperity and associated products and services, private comfort, and mobility) **Vicious cycle:** between the *reinforcement of climate change and air pollution* (e.g., increasing carbon-dioxide emissions and harmful pollutions) and the *reduction of social progress within national societies* (e.g., decreasing market potential for products of high carbon-dioxide intensity and low renewable-resource intensity and increasing costs of national health systems)	**Both/and-technology strategies:** Nation-states and organizations supporting new technologies of energy supply based on atomic and renewable energy to make social progress grounded in a profit orientation *and* reduce climate change and air pollution **Virtuous cycle I:** between *technological innovation* (e.g., atomic power plants, wind-power stations, solar power, and digital technologies) and *social progress within rich national societies* (e.g., economic prosperity and customized energy consumption) **Virtuous cycle II:** between *social progress within rich national societies* (e.g., see forms of social progress listed above) and the *reduction of climate change and air pollution* (e.g., decreasing carbon-dioxide intensity and harmful pollutions) **Vicious cycle:** between the *reinforcement of global atomic risks and other environmental issues* (e.g., atomic waste, atomic reactor disasters, the destruction of landscapes, and the endangerment of animals) and the reduction of social progress within rich national societies (e.g., decreasing market potential of the atomic industry, decreasing attractiveness of regions, and increasing inequality between the poor working at atomic reactors or living close to them and the rich)	**General questions for future development:** • How do nation-states and organizations help maintain social progress *and* accelerate the exclusive supply of renewable energy and thereby reduce negative consequences associated with human and nonhuman life and wellbeing? • How do nation-states and organizations communicate risks of climate change and pollution as well as risks of their responses? • How do nation-states and organizations apply both/and and either/or strategies? • Which unknown negative consequences emerge? • Do nation-states and organizations achieve a competitive advantage?
Social problem: Global financial and economic crises and associated global social problems		
Either/or-technology strategies: Nation-states and organizations supporting new technologies for financial management to make social progress grounded in a profit orientation **Virtuous cycle:** between *technological innovation* (e.g., telecommunication) and *social progress within national societies* (e.g., economic prosperity) **Vicious cycle:** between the *reinforcement of global financial risks* (e.g., the crisis of 1914 and the Wall Street Crash of 1929) and the *reduction of social*	**Both/and-technology strategies:** Nation-states and organizations supporting new technologies for financial management to make social progress grounded in a profit orientation *and* reducing financial risks and crises **Virtuous cycle I:** between *technological innovation* (e.g., the internet, smartphones, and faster and more automatized computer-based trading) and *social progress within rich national societies* (e.g., economic prosperity) **Virtuous cycle II:** between *social progress within rich national societies* (e.g., see forms of social progress	**General questions for future development:** • How do nation-states manage economic crises and climate change? • How do nation-states and organizations address social progress and significantly reduce risks of financial crises and thereby reduce global inequality? • How do nation-states and organizations combine both/and and either/or strategies during phases of economic prosperity and crisis?

progress within national societies (e.g., poverty and inequality within developed countries)	listed above) and the *reduction of risks and impacts of financial and economic crises* (e.g., international standards for the finance industry to reduce risks, international crisis management by the European Union to reduce impacts, and better access of poor country members to financial services through smartphones). **Vicious cycle:** between the *reinforcement of climate change and global inequality* (e.g., less investment in climate-change management and global poverty reduction during crises) and the reduction of social progress within rich national societies (e.g., less consumption within rich nations and slower development of market potential in developing countries)	• How is the evolution of the paradox of social progress influenced by the management of financial and economic risks?

FIGURES

FIGURE 1

Sociological-Historical Model of the Paradox of Social Progress

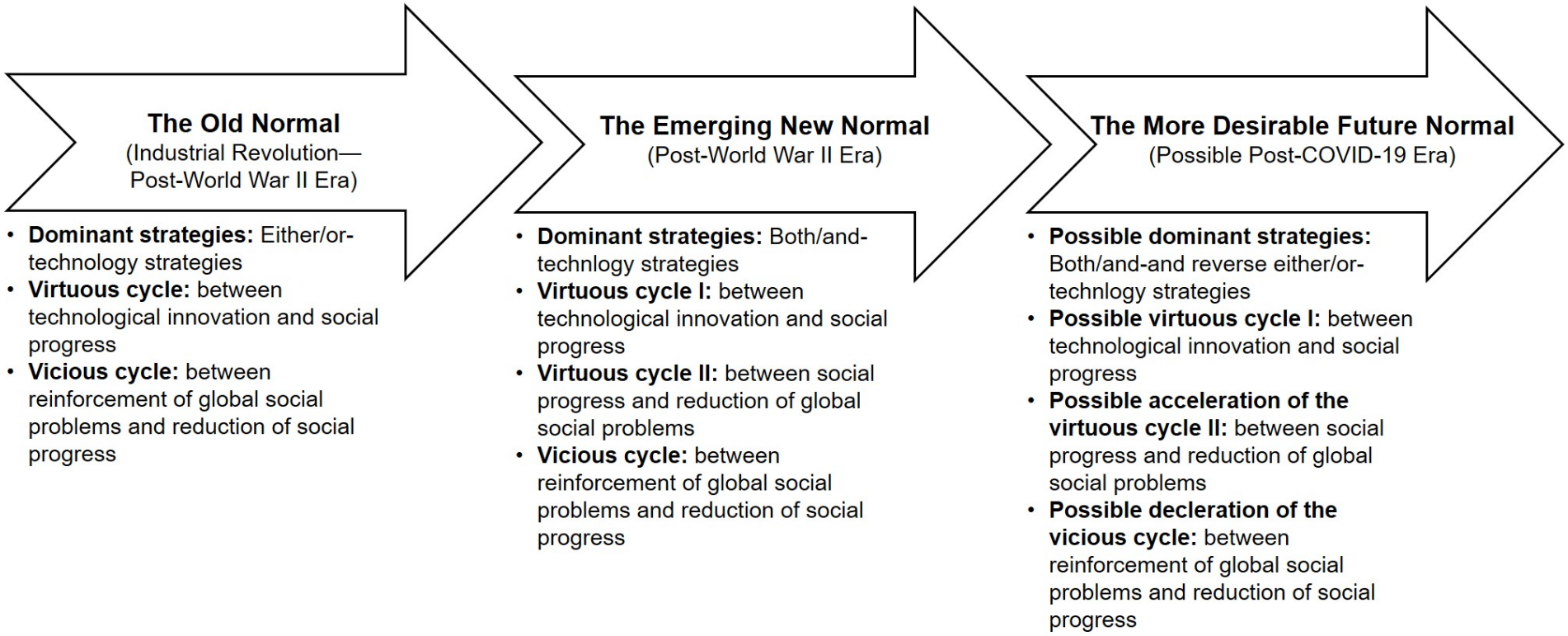

FIGURE 2

The Old Normal: The Paradox of Social Progress from the Industrial Revolution to Post-World War II Era

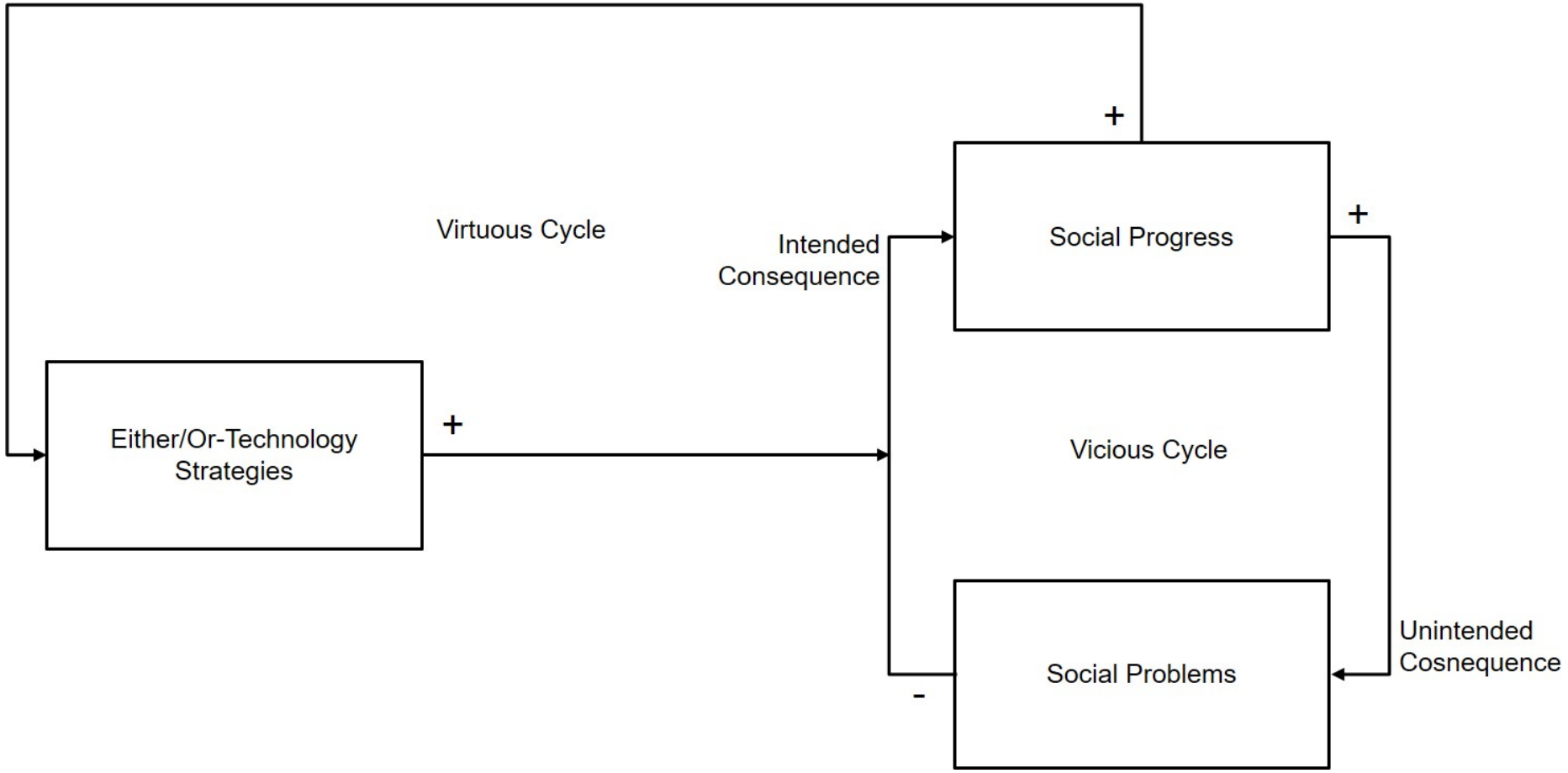

FIGURE 3

The Emerging New Normal: The Paradox of Social Progress in the Post-World War II Era

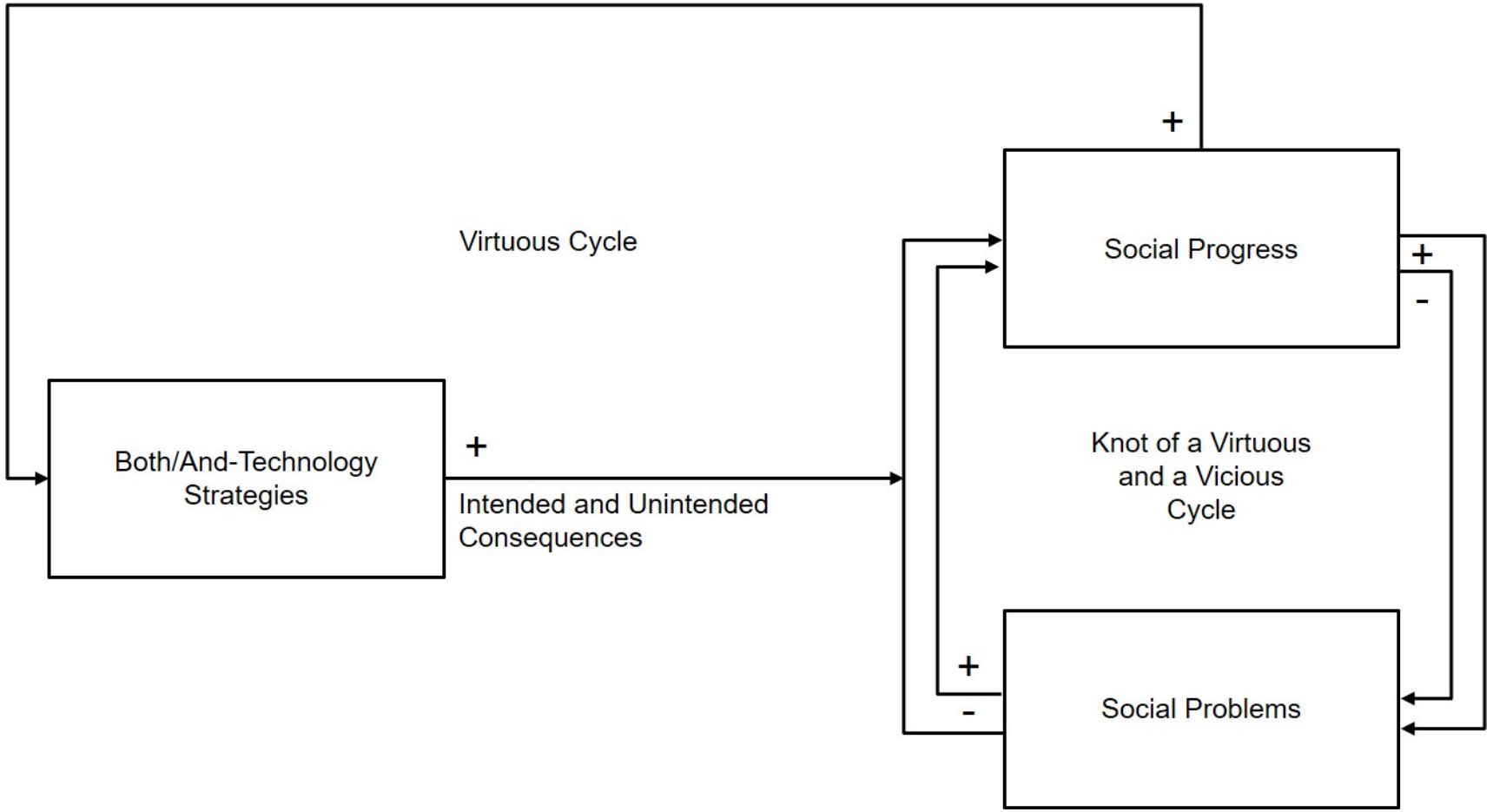

FIGURE 4

Toward a More Desirable Future Normal: The Paradox of Social Progress in a Possible Post-COVID-19 Era