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Article

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economic sociology_the european electronic newsletter

Provided in Cooperation with:
Max Planck Institute for the Study of Societies (MPIfG), Cologne

Suggested Citation: Ergen, Timur; Suckert, Lisa (2021) : "Crises" as catalysts for more sustainable futures? The case of the first oil crisis and the role of multilayered interpretative struggles, economic sociology_the european electronic newsletter, ISSN 1871-3351, Max Planck Institute for the Study of Societies (MPIfG), Cologne, Vol. 22, Iss. 2, pp. 15-23

This Version is available at:
https://hdl.handle.net/10419/232528

"Crises" as catalysts for more sustainable futures?

The case of the first oil crisis and the role of multilayered interpretative struggles

Timur Ergen and Lisa Suckert

Introduction

"How dare you?" Greta Thunberg's exclamation in front of the UN was shaped by indignation but also disbelief. However, not only the young activists of *Fridays for Future* appear to be puzzled about humanity's difficulties in adequately responding to climate change. Ample scientific evidence for global warming and its causes is available, and potential policies for reducing CO_2 emissions have long been developed, evaluated, and tested in practice. So why has the catastrophe on the horizon not induced substantial behavioral change? Why do we see so little reaction in the face of this all-encompassing crisis?

Collective non-action appears even more puzzling when we acknowledge that crises *have* repeatedly served as catalysts for socioeconomic transformation – in environmental as well as other domains: The American New Deal, shaping US society since the 1930s, cannot be explained without the groundbreaking experience of the Great Depression (Gerstle and Fraser 1989). Likewise, the European BSE crisis in the late 1990s gave way to new agricultural policies and sped up the rise of organic farming (Oosterveer 2002; Feindt and Kleinschmit 2011; Sutherland and Darnhofer 2012). In numerous countries, the politics of nuclear energy were remade by the crises of Three Mile Island (1979), Chernobyl (1986), and Fukushima (2011) (Bernardi et al. 2018; Useem and Zald 1982). In a similar vein, the oil crises of the 1970s, which this contribution focuses on, are crucial for understanding state-led restructuring of modern society's energy supply systems, particularly in the field of renewable energy.

How can the transformative potential of crises be explained? This paper complements ongoing scholarly literature by proposing an approach to crises that focuses on their capacity to *open up the future*. Drawing on economic sociology's recent emphasis on the role of imagined futures for socioeconomic action (Beckert 2016; Urry 2016), we focus on how perceiving a crisis involves engaging with alternative futures and contesting established expectations.

Particularly with regard to climate change and other environmental challenges, explanations as to why crises provoke social change oscillate between two poles, which one may call essentialist and constructivist. Essentialist accounts of crisis responses typically trace patterns of socioeconomic reaction back to structural specificities of the given structural disruption and their implications for individual interests. Environmental economists have classically theorized that ecological crises ignite more forceful societal reactions if they impose more innate and visible costs (Downs 1972). This approach also dominates psychological accounts of societal inertia in climate policy: climate change cannot trigger substantial reactions, it is argued, because its true costs cannot be experienced yet.

Most sociological accounts of crisis response attempt to go beyond such essentialist notions. For many sociologists, the transformative potential of crises is not inherent to structural features of the given shock but is due to the fact that interrupted social routine requires collective sense-making which may give rise to social conflict. Crisis response is thus dependent on social processes and societal "understandings" of the given crisis. For example, the sociology of disasters has highlighted pre-crisis events as significant in determining post-crisis social processes (Quarantelli and Dynes 1977). Similarly, the sociology of social movements emphasizes protest trajectories as key mediators of collective crisis responses (Rucht 2013). Underlying such approaches is the assumption that crises are not "natural" phenomena and must be socially constructed in order for societies to respond to them.

The approach we suggest in this paper engages with sociological, more constructivist accounts of crises but complements them with a perspective that highlights the role of imagined futures (Beckert and

Suckert 2020; Beckert 2016) for bringing about socio-economic change. While we do acknowledge the role of material stimuli, we argue that the transformative potential of crises is to a substantial degree dependent on discursive engagement with the future. It depends on multilayered interpretative struggles in which societies settle on whether disruptions present real crises – or mere accidents, errors, or irregularities. At the heart of these struggles, tangible experiences are linked to or detached from broader future consequences, potential causes are projected into the future or relegated to the past, and feasible remedies are conceived or neglected. It is in these multilayered interpretative struggles that the future is "opened up" – and sustainable transformations become conceivable in the first place.

Building on a historical analysis of the first oil crisis and respective controversies in the United States, we provide an ideal typical trajectory of multilayered interpretative struggles and show how a tangible disruption did become framed as an energy crisis. Drawing on extensive archival material, our case study indicates how the social contestation and construction of a crisis facilitated the establishment of long-range energy restructuring as an institutionalized field and opened discursive space for alternative futures.

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Crises as a catalyst for sustainable futures?

Crises, understood as exogenous interruptions of routine, have a central place in economic and psychological models of social transformation. To many observers, environmental awareness and the subsequent expansion of environmental protection measures requires an "external shock," i.e., an experience that modifies underlying interests. Along those lines, the economist Anthony Downs speculated that "the cause of the ecologist would … benefit from an environmental disaster like a 'killer smog' that would choke thousands to death in a few days" (Downs 1972, 46–47). By contrast, a "more gradually deteriorating situation that will eventually pass some subtle 'point of no return'" (ibid., 45) – the prime example of which would certainly be climate change – is hypothesized to have difficulties stimulating enduring public concern. Relatedly, psychologists have framed inertia in the climate crisis as a problem of "unavailable" risks that cannot be experienced yet. In this line of reasoning, "[for] potentially catastrophic risks whose prevention requires long-term investment, there are built-in obstacles to serious regulatory efforts," in that human cognitive operation is hard-wired to focus on "available" risks (Sunstein 2006, 201). As influentially inscribed in the public understanding of political inertia by the Stern Report (Stern 2007), the climate crisis is seen as inhibiting political responses even if the dangers of non-action are fully understood. As the global climate has the characteristics of a common pool resource, individual countries will rationally try to benefit from pollution while others shoulder the costs of mitigation. Like in the psychological literature, patterns of societal reaction in common pool accounts are derived from the structural features of the given problem.

In this paper we critically engage with such approaches that praise environmental disruptions as self-evident drivers of sustainable change. The focus on the structural strains of "external shocks" obscures the complex social processes that practically turn environmental disruptions into crises and make deviations from past practices imaginable, feasible, and reasonable. Before we turn to the contested construction of crises in the next section, we want to briefly summarize how sociological approaches have conceptualized crises and relate their basic approach to the future.

Since its founding era, sociology has depicted itself as a "science of crises" (Koselleck and Richter 2006, 377), first and foremost concerned with dysfunctional societal dynamics. Nevertheless, many sociologists have conceptualized crisis as an ambivalent

phenomenon not to be confounded with disaster or catastrophe. Most pronounced in Marxist traditions, crisis is considered to hold the potential for "progressive" transformation, for counter-hegemonies to emerge, and better futures to be brought about. As a moment of transition, crisis can be "something positive, creative and optimistic, because it involves a change, and maybe a rebirth after a break-up" (Bauman and Bordoni 2014, 3). Sociologists have emphasized how crises may change power relations, challenge dominant institutions, or disrupt social networks, thus enabling actors to overcome established cycles of reproduction and bring about change. However, in the context of this paper, we focus on how crises are interrelated with societal perceptions of the future. Indeed, sociological concepts of crisis refer to the future in (at least) three important respects.

First, a crisis is considered an *unexpected* development, a sudden deviation from the predicted "regular" course of action, from the assumed "normal condition" (Habermas 1973). It can be understood as a mismatch between the future as we expect it and reality as it actually unfolds (Mayntz 2019). Considered as a turning point (Abbott 2001, 240ff.), a crisis decisively divides the continuous flow of time into a regular "before" and an unexpected "after."

However, crises differ from other unexpected events in the *scope of uncertainty* they imply. For accidents and errors, even if they may have catastrophic effects (Perrow 1984), actors can point at what technically went wrong, fix it, and prevent it from happening again (Engelen et al. 2011, 2–3). We may not be able to explain outliers and irregularities, but we consider them to be restricted to a particular situation. Their scope is limited to their direct context in the present. Crises, by contrast, imply a degree of uncertainty that projects into the future, as they challenge basic, taken for granted principles upon which expectations are built. Gramsci (1971) has characterized crisis as an "interregnum," in which the established order is dying, while "the new cannot be born." Established frames, explanations, and narratives are thus made redundant. Experiencing a crisis involves what Weick calls a "cosmology episode," i.e., an instance in which "people suddenly and deeply feel the universe is no longer a rational, orderly system. What makes such an episode so shattering is that both the sense of what is occurring and the means to rebuild that sense collapse together" (Weick 1993, 633). In crises, established modes of action and familiar responses cannot provide solutions (Jessop 2013). The experience of the past can no longer serve to orient the future. The flip side of this extended scope of uncertainty is, however, that crises are instances in which the future opens up and alternative trajectories become conceivable.

Finally and equally importantly, the concept of crisis involves the notion of an *undetermined future* that is open to agency. Unlike a catastrophe, crisis does not involve disastrous automatisms. In line with its conceptual origins in the physiological field, crisis refers to a development that can lead to either disaster, recovery, or even amendment. It highlights contingency and hence agency (Emirbayer and Mische 1998).

On the surface, sociological conceptions of crises seem to mirror popular understandings of them as catalysts for change. As crises open up the future, alternative futures become conceivable and space for deviant agency is created. However, this "opening up" of the future appears as a genuinely social and therefore contested process. When assessing the transformative potential of crises from a sociological vantage point it is therefore crucial to understand how crises are socially constructed.

"Crisis" as the result of multilayered interpretative struggles

How does a crisis emerge? In theory, as for example in stylized models of bank runs (Diamond and Dybvig 1983; Merton 1948), there may be crises that cannot be traced back to any material disturbance but are entirely discursively constructed. However, most empirical crises, and particularly the environmental crisis that we focus on, entail a "material core," i.e., a tangible disruptive development. What is more, how well such a material core is suited to be constructed as a crisis is not entirely independent of its structural characteristics, e.g., to what degree the experienced development actually differs from previous expectations, or the scope of turmoil caused by the disruption. Nevertheless, in order to make sense of any disruptive development as a crisis, actors need to interpret the material core and relate it to broader frames. Crisis "is not some objective condition," Colin Hay (1996, 255) summarized this argument, but "brought into existence through narrative and discourse." We specify this perspective in that we argue that crisis discourse is a) shaped by multilayered interpretative conflicts in which b) perceptions of the future play a critical role.

A first important field of conflict usually concerns the *consequences of a disruption* and the related question of whether it presents a "real" crisis – or just an accident or irregularity. To be considered a crisis, the material core needs to be discursively linked to broader frames that stretch the direct context and challenge the established order. Narratives about possible catastrophic futures and dystopic scenarios are crucial in this endeavor, because they spell out what

practices, life spheres, populations, or industries might be affected in the future – and where this predicted future deviates from the previously expected future (Weingart et al. 2007). Providing credible narratives about the devastating long-term consequences of a disruption gives it significance beyond the situation (Walby 2015, 19). In contrast, those who oppose interpretation of a disruption as a crisis will renounce the scope of the disruption, tying it closer to the present, as a temporary problem that will not have consequences for the future.

A second interpretative struggle then concerns the *causes of a disruption*. Causality surely involves explanations that are oriented towards the past and spell out what went wrong. However, framing a problem as a crisis requires these assumed causes to be projected into the future. Credible crisis narratives need to spell out why causes will persist or even become more pronounced in the future. Consequently, disruptions are depicted as being bound to happen again or to get worse, unless the underlying mechanism is removed. In these struggles, which are often substantiated by simulations and forecasts, different interpretations of what elements of the past cannot be allowed to transcend into the future are at stake. Actors trying to avoid the perception of crisis will instead emphasize finite causes and portray the situation as a one-time accident or refer to contingency and reject causalities altogether. As interpretative struggles over the causes of a disruption involve attributing blame and responsibility, they can be assumed to be most fierce power struggles (Scholz 2016).

Making sense of the causes sets the stage for a final type of interpretative struggle concerned with possible *remedies to a disruption*. The discursive frame of a crisis is indeed opposed to the notion of determinism but instead involves an element of agency. Crises are not catastrophes that need to be endured, but developments that can be overcome and to which creative solutions are to be sought. Indeed, the crisis narrative implies an urge to action, the necessity of a remedying response. However, the proposed remedies may differ substantially in their time horizons: they can be depicted as emergency actions, mitigating immediate consequences and proposing a return to the previous normality; or they can be depicted as long-term solutions that suggest alternative futures (Crouch 2011). The alternative remedies that can credibly be depicted are of course highly interdependent with acknowledged causes and consequences of the crisis (Gibson 2012).

Finally, we argue that these distinctive spheres of contention constitute layers rather than stages or phases of an interpretative struggle in which a crisis is constructed (Jessop 2013). Whether a credible crisis narrative promoting an alternative future emerges depends on the discursive outcome for each of these layers. There needs to be a widely acknowledged perception of consequences, causes, and potential solutions to a crisis. Yet, this is not a linear process, as all three layers are interdependent and interpretative struggles can move back and forth between these layers – or address all of them at the same time. Moreover, once established interpretations of crises, their consequences, causes, or remedies can be challenged again.

The multilayered construction of the first oil crisis, of 1973/74

Today, the first oil crisis, of 1973/74, is unequivocally understood as a watershed moment in the history of the postwar social order. It has been made responsible for grave societal transformations in the fields of economic policy, environmental protection, and geopolitics. Our focus here is on the less often discussed historical juncture of the advent of state-led attempts to restructure Western energy systems (Ergen 2017) that allows us to illustrate our theoretical framework. We document how multilayered interpretative struggles opened the future for societal coalitions and policies deviating from decades of established practice in the energy arena and facilitating the emergence of renewable energies.

As compared to the climate crisis, the first oil crisis made it easy to experience direct disruptions. This is despite the fact that the immediate material trigger of the first oil crisis was of limited significance. It consisted of a four-months-long reduction of oil exports by a number of Arab oil-producing nations. Price reactions to the cutbacks were severe, however. Oil prices roughly quadrupled and threw importing nations' economies into economic turmoil. Of high symbolic significance were long lines at gas stations and a series of rationing emergency measures, such as the national speed limit in the US or bans on Sunday highway driving in Germany. Especially in the US, the effects of the embargo questioned faith in American geopolitical supremacy. The embargo constituted a political reaction to US support of Israel in the Yom Kippur War. While Arab nations made public threats to use the "oil weapon" as part of their foreign policy arsenal since the 1950s (Yergin 1991), an earlier attempt to put pressure on Western nations through coordinated supply restraints failed in 1967. Explaining why exactly the 1973 embargo did not fizzle out in a similar fashion, but did in fact affect pricing and supply behavior, is not an easy task. A common structural explanation in the literature is that the US incremen-

tally lost its power to act as a "supplier of last resort" (Thompson 2017, 95).

Important for our purposes, discourse about an upcoming energy crisis emerged a few years earlier and provided a fertile narrative ground to frame the embargo. At the same time, warnings about a coming watershed moment in modern societies' resource use circulated in the environmental movement, the scientific community, and the public sphere. The landmark first report of the Club of Rome, *The Limits to Growth*, had been published just one and a half years earlier (Meadows et al. 1972) and was intensely debated in politics and the public (see, for example, US Congress 1973). The material disruptions of the embargo were discursively related to such dystopic forecasts depicting future consequences. The New York Times in January 1974 described the oil crisis in the following words: "[not] since World War II has there been a global problem that has threatened to change relationships and ways of life more than the current energy crisis" (New York Times 1974a). Similarly, on what we have described as the second layer of causes, the oil crisis was propagated as a new kind of political economic crisis, resulting not from idle capacity, but from naturally limited material means: "The current crisis stems not from a deficiency of demand but of supply, the most dramatic manifestations of which have been shortages of food and soaring food prices, and shortages of oil and soaring energy prices" (New York Times 1974). Projecting both the causes and consequences of the embargo into the future, it was portrayed as a "real" crisis challenging the established order.

Yet, the nature of the embargo as a critical situation requiring action was repeatedly doubted. In numerous congressional hearings, influential politicians charged oil executives with artificially engineering shortages to profit from price hikes. The question of whether the shortages were "real" was among the major points of contention in 1974 (New York Times 1974d). Securing public legitimacy for crisis policies in the energy sector required first and foremost the generation of widely accepted knowledge (Graf 2014). Reminiscent of today's Covid-19 crisis, policy-makers were afraid that public denial of the severity of the crisis would block political countermeasures. Assembling executives from the major oil companies, members of Congress begged the oil industry to supply the information necessary to shift public opinion: "Gentlemen, it is your duty to make … as convincing a case as needs to be made to convince the American people that this is not a phony shortage induced by you. That is not only your duty as businessmen …, but it is your duty as Americans … There is nothing that we can do by legislation that the people can't undo by simply refusing to go along" (US Congress 1974, 119).

In addition to the reality of the shortages, actors doubted if Arab nations could be expected to maintain cartel discipline, i.e., whether the causes of the crisis would persist in the future. James Akins, an adviser in Richard Nixon's administration, complained publicly in April 1973 that belief in the dangers of an oil crisis was undermined by theories of natural cartel instability: "[T]he common response among Americans has been: 'They need us as much as we need them'; or 'They can't drink the oil'; or 'Boycotts never work'" (Akins 1973, 467). In the public sphere, the economist Milton Friedman was among the most vocal critics of an understanding of the crisis as a critical juncture. In a March 1974 Newsweek op-ed, he lamented that "The world crisis is now past its peak. The initial quadrupling of the price of crude oil after the Arabs cut output was a temporary response that has been working its own cure … World oil prices are weakening. They will soon tumble. When that occurs, it will reveal how superficial are the hysterical cries that we have come to the end of an era and must revolutionize our energy-wasting way of life" (Friedman 1974).

Such diagnoses refer to both the first and second layer of our framework: they describe the embargo as an isolated incident without inherent long-term consequences. With a similar narrative, one of Nixon's aides tried to calm demands for government action internally: "I urge that we not allow pressures of the next month or two, based on a real and immediate shortage, seriously compounded by trendiness and news-magazine hysteria, to result in unnecessary and even counter-productive energy policies … In a few months, I suspect, we will look back on the energy crisis somewhat like we now view beef prices – a continuing and routine governmental problem – but not a Presidential crisis" (cited in Yergin 1991, 618). Early attempts to downplay the crisis weaved together judgment about the significance of the incident for the future with projections about causes. Collectively "sitting the problem out" would unmask the embargo as a minor nuisance.

Despite such reservations, the government was forced by public opinion, expediency, and Congress to initiate a series of emergency measures, among them complex price controls and allocation schemes (Jacobs 2017). Moreover, public and congressional voices demanding more encompassing government measures put increasing pressure on the administration to take a more proactive stance. In May 1974, the New York Times – in line with influential congressional forces – decried "Anarchy in Energy," demanding a coordinated energy policy (New York Times 1974b).

In light of the escalated Watergate scandal, the Nixon administration repeatedly gave in to the demands for a more forceful policy response. Incremen-

tally it established what it called Project Independence, a potentially radical departure from established energy policy. When Nixon announced the (in 1973 clearly absurd) intention to make the United States independent from "foreign energy sources," he used language promising a path break: "Today the challenge is to regain the strength that we had earlier in this century, the strength of self-sufficiency … I have ordered funding of this effort to achieve self-sufficiency far in excess of the funds that were expended on the Manhattan Project" (Nixon 1973).

However, this quest for possible remedies (our framework's third layer) was still intertwined with substantial struggles over the causes of the crisis. The exact meaning of Project Independence was subject to ongoing conflict. Moreover, Nixon repeatedly oscillated between acknowledging the structural severity of the crisis and downplaying its significance for the future of American society. In effect, significant parts of the conservative administration tried to use the bid for a national energy policy as a vehicle to push through deregulatory measures in the energy arena (Jacobs 2017). In line with Milton Friedman's thinking quoted above, the underlying rationale was that the energy crisis was believed not to be caused by energy or foreign policy complications, but by government measures preventing society from adapting to fluctuating supply conditions. While important factions in American society fought for price controls – both to ease the pain for consumers and to rein in Big Oil profiting from price hikes – important conservatives fought for deregulation and hence for price *rises*. Nixon himself echoed this causal account of the energy crisis when he criticized the American public for its unwillingness to adapt to new supply conditions: "Our deeper energy problems come not from war, but from peace and from abundance … in prosperity what were once considered luxuries are now considered necessities" (Nixon 1973). The causal account of the energy crisis as being the result of excessive demands of the American consumer – for many symbolized by Jimmy Carter's later plea for Americans to please lower their thermostats (Carter 1977, 71) – was among the most influential positions in the energy politics of the 1970s. Crucially, it repeatedly brought together groups in favor of sectoral liberalization, environmentalists fighting for conservation, and industry groups pleading for minimal government interference. In 1975, an oil executive tried to appeal to this coalition when describing the underlying causes of the shortages: "The fact is that people tend to waste what is cheap and plentiful, and to conserve what is dear … Because we thought petroleum and other fossil fuels were, for practical purposes, inexhaustible, we saw no reason to conserve them. We were, we see now, mistaken. The system is beginning to recognize this mistake by pricing these fuels in accordance with their economic scarcity" (Bradshaw 1975, 49). This interpretative position was highly influential in policy-making throughout the decade. The partial rollback of price controls, the deregulation of natural gas, and the final deregulation of oil under Jimmy Carter and Ronald Reagan were legitimized on the basis of a consumerist-conservationist notion of the causes and associated remedies of the energy crisis (De Marchi 1981a, 1981b; Jacobs 2017).

Already in the early 1970s, however, deregulatory and moderately conservationist policies were criticized based on false premises and were complemented by a third suggested remedy. Since the turn of the decade, networks of environmental activists, firms, government administrators, and researchers accelerated activities to develop approaches for moving the energy system away from exhaustible fuels (Ergen 2017). A key success of these networks was to establish within the broader Project Independence a then gigantic new federal agency in charge of developing "new" energy sources, the Energy Research and Development Agency (ERDA, later consolidated into the new Department of Energy). While a majority of its resources were spent on nuclear energy projects, the new agency was a seedbed for initiatives throughout the decade to commercialize renewable energy technologies. All major renewable energy technologies in use today have received major kickstarts in ERDA-led programs. Even more important, it laid the foundation for imagining alternative ways out of the energy crisis. To give a few examples, the American debate about the oil crisis gave birth to Amory Lovins's proposal of a future "soft energy path," the idea of democratizing energy production with the help of renewable energy technologies (Lovins 1976). A so-called Solar Coalition in Congress managed to pass numerous dedicated support laws and established permanent Federal laboratories. Through ERDA and the Solar Coalition, the idea became institutionalized that one of the routine functions of the modern state is to advance the systematic development of new energy sources to cut into the reliance on politically unstable and exhaustible fuels. To this day, mobilization in favor of renewable energy development routinely relies on a set of promises developed in conflicts over the nature of the first oil crisis.

From the middle of the decade, an increasing share of the debate moved to what were then called "long-range" solutions – most often targeting "the year 2000." A New York Times op-ed in 1976 echoed this way of thinking, wondering if it may be in the national interest to make the entire world independent of fossil fuels, as "even if the United States could become 'embargoproof,' this would not make us very secure if

some of our chief trading partners were still vulnerable" (New York Times 1976). Congress dedicated extensive hearings to the problem of long-range energy planning, discussing scenarios stretching into the 2000s (US Congress 1977). The language in these hearings had changed significantly from the skeptical routine-oriented language found in the early phases of the crisis. "We are concerned with such questions as these," Senator Nelson opened the first hearing, "Where are our energy assumptions, policies and programs taking us …? Might we prefer to go somewhere else? And, if so, how do we change course? The way our society answers these questions will affect employment, lifestyles, wealth, equity, war, and peace" (US Congress 1977, 1). Opening up debate about the long-range future of the American energy system changed planning approaches and led to an increasing legitimacy of renewable energy support measures. It led Jimmy Carter's administration to proclaim a national goal of a 20-percent share of renewables in American energy consumption by the year 2000 and created a space to experiment with demand-led support schemes (US Department of Energy 1979).

Of course, many of the developments of the 1970s receded in the following years, most promises were hardly kept and many projections and diagnoses proved to be flawed from today's vantage point. Nonetheless, the case of the oil crisis emphasizes how the interpretation of consequences, causes, and remedies is subject to discursive struggles in which different perceptions of the future are contested. The social construction as a crisis of American society led to numerous highly significant attempts to experiment with the collective restructuring of modern energy systems. Most of these attempts, we submit, have had direct technological, institutional, and ideational lineages into today's interpretative struggles over the response to the climate crisis.

From climate change to climate crisis?

The presented theoretical considerations as well as the case study of the first oil crisis indicate that the potential of crises to foster socioeconomic transformation is to a substantial extent dependent on their capacity to discursively open up the future. Drawing on an economic sociology perspective that emphasizes the role of imagined futures, we have shown how interpretative struggles over the consequences, causes, and remedies of a crisis involve engagement with future expectations and can render alternative futures conceivable. Referring these insights back to our point of departure, what can we learn for the cause of global warming and the world's puzzling non-response?

First, while the inherent characteristics of global warming (e.g., its long-term build-up and tipping points) may not particularly facilitate collective response, it is important to acknowledge that such responses are similarly dependent on the societal interpretation of a disruptive development as a "veritable" crisis. In this regard, recent attempts by the Fridays for Future movement to actively reframe the underlying phenomenon not as climate change or a climate catastrophe but precisely as "climate crisis" appear both remarkable and promising in the endeavor to foster transformative social change.

Second, the various controversies emerging around the climate crisis can be understood along the three layers we have proposed and illustrated. The concept of multilayered interpretative struggles may therefore inform further analysis of climate discourse. For example, the abysmal scenarios regularly predicted by the Intergovernmental Panel on Climate Change of forthcoming flooding and desertification, famine and refugee movement are attempts at credibly portraying long-term consequences and showing how they disrupt established orders. In media and political discourse, such forecasts are then linked to tangible present events like droughts, tsunamis, or species extinction. Weingart, Engels, and Pansegrau (2007) have shown how linking the present to disastrous futures has been a substantial part of the German climate discourse since at least the 1980s. But similarly to what we have found for the oil crisis, we also find actors denying climate change by neglecting its relevance for the earth's future (Wright and Mann 2013). Along the same lines, on the layer of conflict over the causes of the problem we see actors neglecting human life as the primary cause of global warming or assuming global warming to be a temporary development. And while excessive CO_2 emissions are indeed widely acknowledged as a substantial cause, a closer look reveals a plethora of underlying mechanisms blamed for the climate crisis: from illegal forest clearance and capitalism to overpopulation and society's reliance on fossil fuels. Like we have seen for the oil crisis, crisis causes that need to be reverted in the future remain discursively contested. This is even more true for related remedies to climate change that constitute the third layer: How the climate crisis can be prevented or at least mitigated is subject to fierce conflicts between different interest groups as well as industrialized and developing nations. Suggested solutions range from technological modernization to a substantial transformation of capitalism to authoritarian control of individual behavior (Adloff and Neckel 2019). Moreover, for climate change we can currently observe a contro-

versy that concerns the idea of crisis agency as such: Is it still possible to mitigate climate change and focus on the causes, or should humanity rather prepare for the consequences of global warming and "learn to live with it?" The potential for socioeconomic transformation is shaped by the outcomes of such multilayered interpretative struggles and their capacity to open up the future.

References

Abbott, A. 2001. Time Matters: On Theory and Method. Chicago: University of Chicago Press.

Adloff, F., and S. Neckel. 2019. „Modernisierung, Transformation oder Kontrolle?" In Große Transformation? Zur Zukunft moderner Gesellschaften. Sonderband des Berliner Journals für Soziologie, edited by Hartmut Rosa, Karina Becker, Sophie Bose, and Benjamin Seyd, 167–180. Berlin: Springer.

Bauman, Z., and Bordoni, C. 2014. State of Crisis. Hoboken, New Jersey: John Wiley and Sons.

Beckert, J. 2016. Imagined Futures: Fictional Expectations and Capitalist Dynamics. Cambridge, Massachusetts: Harvard University Press.

Beckert, J., and L. Suckert. 2020. "The Future as a Social Fact. The Analysis of Perceptions of the Future in Sociology". Poetics. online first.

Bernardi, L., L. Morales, M. Lühiste, and D. Bischof. 2018. "The Effects of the Fukushima Disaster on Nuclear Energy Debates and Policies: A Two-Step Comparative Examination." Environmental Politics 27: 42–68.

Crouch, C. 2011. The Strange Non-Death of Neo-Liberalism. Cambridge, UK: Polity Press.

De Marchi, N. 1981a. "The Ford Administration: Energy as a Political Good." In Energy policy in perspective: Today's problems, yesterday's solutions, edited by C.D.W. Goodwin, 475–546. Washington, DC: The Brookings Institute.

De Marchi, N. 1981b. "Energy Policy under Nixon: Mainly Putting out Fires." In Energy Policy in Perspective: Today's Problems, Yesterday's Solutions, edited by C. D. W. Goodwin, 395–474. Washington, DC: The Brookings Institute.

Diamond, D. W., and P. H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity."Journal of political economy 91: 401–419.

Downs, A. 1972. "Up and Down with Ecology-the Issue-Attention Cycle."The Public Interest 28: 38.

Emirbayer, M., and A. Mische. 1998. "What Is Agency?" American Journal of Sociology 103: 962–1023.

Engelen, E., I. Ertuk, J. Froud, S. Johal, A. Leaver, I. Ertürk, M. Moran, and A. Nilsson. 2011. After the Great Complacence: Financial Crisis and the Politics of Reform. Oxford: Oxford University Press.

Ergen, T. 2017. Coalitional Cohesion in Technology Policy: The Case of the Early Solar Cell Industry in the United States. MPIfG Discussion Paper.

Feindt, P. H., and D. Kleinschmitt. 2011. "The BSE Crisis in German Newspapers: Reframing Responsibility." Science as Culture 20: 183–208.

Gerstle, G. and S. Fraser. 1989. The Rise and Fall of the New Deal Order. New Jersey: Princeton University Press.

Gibson, D. R. 2012. Talk at the Brink: Deliberation and Decision during the Cuban Missile Crisis. New Jersey: Princeton University Press.

Graf, R. 2014. Öl und Souveränität: Petroknowledge und Energiepolitik in den USA und Westeuropa in den 1970er Jahren. Quellen und Darstellungen zur Zeitgeschichte. Institut für Zeitgeschichte. Band 103. Oldenburg: Walter de Gruyter.

Gramsci, A. 1971. Selections from the Prison Notebooks. London: Lawrence and Wishart.

Habermas, J. 1973. "What does a crisis mean today? Legitimation problems in late capitalism." Social Research 40: 643–667.

Hay, C. 1996. "Narrating Crisis: The Discursive Construction of Thewinter of Discontent." Sociology 30: 253–277.

Jessop, B. 2013. "Recovered Imaginaries, Imagined Recoveries: A Cultural Political Economy of Crisis Construals and Crisis-Management in the North Atlantic Financial Crisis." In Before and beyond the global economic crisis: Economics, politics and settlement, edited by Mats Benner, 234–254. Cheltenham: Edward Elgar Publishing.

Koselleck, R., and M. W. Richter. 2006. „Crisis". Journal of the History of Ideas 67: 357–400.

Mayntz, R. 2019. „Überraschende Historische Ereignisse Als Theoretisches Problem". In Ordnung und Fragilität des Sozialen: Renate Mayntz im Gespräch, edited by Ariane Leendertz and Uwe Schimank, 297–315. Frankfurt: Campus.

Merton, R. K. 1948. "The Self-Fulfilling Prophecy". The antioch review 8: 93–210.

Oosterveer, P. 2002. "Reinventing Risk Politics: Reflexive Modernity and the European BSE Crisis." Journal of Environmental Policy and Planning 4: 215–229.

Perrow, C. 1984. Normal Accidents: Living with High Risk Technologies-Updated Edition. New Jersey: Princeton University Press.

Quarantelli, E. L., and R. R. Dynes. 1977. "Response to Social Crisis and Disaster". Annual review of sociology 3: 23–49.

Rucht, D. 2013. „Globalisierungskritische Proteste Als Herausforderung an Die Internationale Politik." In Die Politisierung der Weltpolitik, edited by Michael Zürn, 61–83. Berlin: Suhrkamp.

Scholz, R. 2016. "Towards a Post-Material Prosperity? An Analysis of Legitimising Narratives in German Crisis Discourses from 1973 and 2008". French Journal for Media Research 5.

Stern, N. 2007. The Economics of Climate Change: The Stern Review. Cambridge: Cambridge University Press.

Sunstein, C. R. 2006. "The Availability Heuristic, Intuitive Cost-Benefit Analysis, and Climate Change." Climatic change 77: 195–210.

Sutherland, L.-A., and I. Darnhofer. 2012. "Of Organic Farmers and 'Good Farmers': Changing Habitus in Rural England." Journal of Rural Studies 28: 232–240.

Thompson, H. 2017. Oil and the Western Economic Crisis. Berlin: Springer.
Urry, J. 2016. What Is the Future? Hoboken, New Jersey: John Wiley and Sons.
Useem, B., and M. N. Zald. 1982. "From Pressure Group to Social Movement: Organizational Dilemmas of the Effort to Promote Nuclear Power." Social Problems 30: 144–156.
Walby, S. 2015. Crisis. Cambridge, UK: Polity Press.
Weick, K. E. 1993. "The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster." Administrative science quarterly 38 (4): 628–652.
Weingart, P., A. Engels, and P. Pansegrau. 2007. Von der Hypothese zur Katastrophe: Der Anthropogene Klimawandel im Diskurs zwischen Wissenschaft, Politik und Massenmedien. Opladen/ Farmington Hills: Verlag Barbara Budrich.
Wright, C., and M. Mann. 2013. "Future Imaginings and the Battle over Climate Science: An Interview with Michael Mann." Organization 20: 748–756.