

# What Kind of a World Can Weather Climate Change?

## Some Philosophical and Sociological Challenges

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### **Ecocide and Exploitation**

Six centuries have passed since the British began to extract stupendous amounts of energy from the remains of extinct life buried deep beneath the surface of the earth, placing Western civilization on the track it is still speeding down. But to put the matter that way is to treat ‘the British’ or, indeed, the entirety of ‘Western civilization’, as a bloc. ‘The British’, however, were not all of a piece. Some of the British had the power to convert Scots into slaves. This is the genealogy of coal to fuel the engine of an entire way of life. The impact of coal is widely known. Its origin in slave labor is not.

The mining that started clogging the atmosphere with carbon dioxide was the fruit of enslavement. At an early stage in the development of coal, a 1606 Act of the Scottish Parliament mandated that coal miners be permanently bonded to their masters. If they dared leave the mine, they were considered to be thieves and subjected to large fines and punishment ‘in their bodies’. Vagabonds were also at risk of being enslaved. It was not until 1775, with the industrial boom in coal-fed steam engines afoot, that another law declared this to be ‘a state of slavery and bondage’ and formally abolished it, in part to permit the recruitment of a much larger work force (quoted in Russell 2012). Even then, to prevent ‘any injury to the present Masters’, the miners held in servitude would have to go through a long and laborious process to win release (quoted in Russell 2012).

The mine owners’ new property model succeeded. It powered production and profitability. Mining boomed. A whole way of life built up around it. The cost of coal was low enough to promote its use in

heating, industry, and transportation, but high enough to guarantee profits. Over the following two centuries, the principle driving the burning of coal was extrapolated to other fossil fuels, increasingly oil and gas. The dynamic of efficiency was ruthless – because it was so effective, even in unanticipated ways. In the words of the visionary climate activist and journalist Bill McKibben (2010: 27), ‘one barrel of oil yields as much energy as twenty-five thousand hours of human labor’. So the extraction of fossil fuels drove the process that we are pleased to call ‘development’.

Many feedback effects ensued: the release of methane (a greenhouse gas far stronger than carbon dioxide) from the earth’s crust, melting icecaps, ocean acidification, land desertification, rainforest destruction, extreme weather, long fire seasons, and so on. This didn’t just happen – it was made to happen, by an amalgam of investment, organization, coercion, and culture. So it has come to pass that the energy unleashed from the remains of extinct life drives new waves of extinction and threatens to sabotage the very civilization that mobilized and continues to mobilize such vast powers – a civilization that strives to be inescapable, to fill all the crevices of the world, continually disrupting and remaking livelihoods, social relationships, and, indeed, the relations of all humanity with the natural world. The viability of this development model is expiring.

This is an old story but it is still our own. It has not been superseded. It sounds the ground note for modernity. Economic exploitation has combined with physical devastation and resulting feedback effects to transform not only the life of the miners and their dependents but the life of the earth. The result is a continuing and unended story of power and profit that offers employment along with unending harm to the miners and the land they have exploited. In his contribution to this symposium of the International Sociological Association, for example, Ercüment Çelik (2015) calls attention to the death of 301 workers at a coal mine in Soma, Turkey, caused by an underground fire:

The Soma Coal mine, formerly a state-owned company, had been privatized in 2005 and since then was proud of decreasing the cost of producing coal from about \$140 to \$24 per ton. After the disaster in 2014 it became clear that this was at the expense of the lives of hundreds of mineworkers. Erineç Yeldan, a leading economist, calls the tragedy of Soma mineworkers ‘a crime of peripheral capitalism’ that operates through hasty privatization and forced informalization of labour.

In other words, the story of fossil fuels is not only a story of investment, and of earthly transformation on an unprecedented scale, it is also, and inseparably, a story of the exploitation of labor. As the anarchist theorist Murray Bookchin (1982) pointed out, ‘The very notion of the domination of nature by man stems from the very real domination of human by human.’ The wreckage of humans by humans is intertwined with the wreckage of the world even as the domination of nature transformed both human and natural life (if, indeed, the two can be distinguished). The same principle could be – and has been – applied to the industrialization of agriculture. The same powers of control and organization have been at work transforming the physical planet and the civilization that inhabits it.

The result is that, although we are not used to seeing ourselves this way, human beings are now survivors from two time-directions. We are the lucky survivors of our ancestors who themselves survived convulsions – famines, floods, tumultuous weather, fires, and wars. But even those of us who live in the more or less prosperous world are also the survivors of a convulsive future. In the light of the sufferings of those already uprooted by extreme weather, famine, droughts, rising sea levels, ocean acidification, and so forth, it might seem presumptuous for those of us in the more-or-less prosperous world to call ourselves refugees. But we are either refugees from an unsustainable future, or we are agents of change. Our descendants will judge what we made of our refugee status.

### **Power and Irony**

None of this would have surprised Karl Marx, who grasped the world-changing and world-making nature of capitalism. Capitalism, Marx recognized, endlessly devised more advanced means to exploit labor (as well as rewarding it) just as it treated human relationships and the natural world as forms of raw material. It was one of Marx’s great insights that capitalists were not just exploiters, they were revolutionaries. The exploitation of labor transformed the material world as capital became interfused with human will. One deservedly famous passage in the *Communist Manifesto* is a tribute to – a virtual rhapsody on – an indissoluble process that, in Marx and Engels’ (1848/1969) extravagant rhetoric, performed miracles. It produced wonders ‘far surpassing Egyptian pyramids, Roman aqueducts, and Gothic cathedrals’.

This process was, in Marx’s view, creative as well as destructive. It unleashed human forces hitherto unimagined, forces that, in their effects,

acted like divinities. Capitalists, devising ever-new instruments of production, almost helplessly became the instruments of a process that appeared to transcend human scale. The dynamic of world-changing became second nature to a ruling class of property-owners who poured capital, the result of prior investments in land, knowledge, and labor, into their projects, enabling them to implement their wills and, in the process, undermining the mental and social fixities of the past:

The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society .... Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned... .

But Marx (and Engels) believed the sum of all these disturbances had a saving grace. From a compound of uncertainties, a certainty would emerge. A fever of instabilities would culminate in stability. The proof of Marx's and Engels's rhapsody on the theme of bourgeois potential was already heaving into sight. With the confidence of an Enlightenment problem-solver enraptured by the Hegelian dialectic, Marx saw transcendence emerging from the very bowels of the problem. The developing sum of scientific reason would make it possible to overcome the damage done by the technologies that were, in turn, developed on the basis of scientific reason. Marx (1859/1977) considered that mankind 'inevitably sets itself only such tasks as it is able to solve, since ... the problem itself arises only when the material conditions for its solution are already present or at least in the course of formation.' If the physical transformation of the world entailed the degradation of labor, the poisoning of the atmosphere and the radical transformation of the natural conditions of life on earth, these disruptions would prove transitional.

For all his awe at the immensity of capitalism's achievements, Marx did not anticipate the scale of disruption they made possible. His imagination was limited. Though he worshiped at the shrine of science, the science of his time was incapable of telling him what price would be paid by the sustainable earth for capitalism's achievements. In the bliss of 19th-century ignorance, Marx could not imagine the fullness of a negative dialectic – the undermining of the material conditions under which capitalism had

come to thrive. He could not imagine a world in which (in McKenzie Wark's astute words):

the sum total of social labor undermines its own conditions of planetary existence. There is no longer an outside, a margin, an elsewhere, to dump the waste products of that labor and pretend this disorder that we make has gone away. That disorder now feeds back through the whole metabolism of the planet. It has done so for a while, it will keep doing so, in a sense, forever. There is no 'environment' or 'nature' that is separate. There is no 'ecology' that could be in balance if we just withdrew from it ... So we have to understand, and process the feeling, of living among the ruins. (Wark, 2015)

It must be understood that the ruination of human civilizations is nothing new. The disruption of life by conquest, by forced migration, by ecological threat and collapse, is integral to human history. In fact, what we call tradition is the residue of disruptions. Where there were hunters and gatherers, there was fire. Farmers have known since time immemorial that where there is nature, there is disruption. The Mayans likely fell to deforestation and drought (Stromberg 2012). In the late 13th century, the villages of the North American Southwest fell to drought exacerbated by warfare, with tens of thousands of people migrating to more hospitable climates. The fragility of civilization is an old story. So is the bulldozer jaggedness of large-scale capitalist development.

But today, the scale of disruption is vastly magnified. The nature that disrupts civilization is not 'original nature' – an oxymoron, in fact, according to evolutionary theory – but nature repeatedly shaped, wrenched, and revised by human history, a history that has itself become intertwined with what we are pleased to call nature. The boundaries are permeable. Nature does not simply surround human life past and present, does not simply form the setting for human life; nature is imprinted with human life. Its instability is inseparable from the instability of human life, an instability that increasing scientifically literate populations can anticipate. It is increasingly understood that, as Bill McKibben wrote, 'The planet on which our civilization evolved no longer exists' (2010: 27).

### **The Modern Present Requires the Future**

Thinking about the present in relation to the past and the future entails a break with ideas of historical time as closed and cyclical. The German historian Reinhart Koselleck (2004: 3) pointed to a striking link between

the experience of modernity and the subjective significance of the future: the more a particular time is experienced as a new temporality, as ‘modernity’, the more that demands made of the future increase. Modernity, in this sense, means a human desire to control – as much as possible – the future:

the desire to control the future, in other words, is inseparable from the sense that the present has a distinctive character – it is not just a continuation of the past – and that it permits a disciplined expectation of the future. One can only desire to control the future if one believes that that is possible. But the advances that are conducive to thinking that the future is calculable eventually shake that very expectation.

Hence two ironies set in with the Enlightenment. The first we have already alluded to: the means by which one believes that the future is calculable are also the means by which, on reflection, it loses its inevitability. It took a long time before moderns understood that the means civilization had devised to extend itself into the future – to control it – were capable of radically transforming that future itself.

The second irony concerns how the future is, in a sense, experienced in the present. It was stated this way by Koselleck (2004: 3):

if a particular contemporary becomes aware of the increase in his weight of the future in his range of experience, this is certainly an effect of the technical-industrial transformation of a world that forces upon its inhabitants ever briefer intervals of time in which to gather new experiences and adapt to changes induced at an ever-increasing pace.

In other words, the acceleration of time, the sense that world-time is racing, undermines the apparent ‘normality’ of what has come to be taken as normal. It also makes the future appear stormier. Anticipations of upheavals to come are no longer left to the realm of extraordinary apocalyptic moments – ‘end times’ – derived from religious scenarios. Not only do climate scientists converge in expecting great disruptions, but so do forms of knowledge and industries dependent on that science. In particular, such institutions as insurance and urban planning adjust to a ‘new normal’. Although no particular storm or atmospheric disturbance can be traced precisely or unambiguously to climate change, nor can its magnitude, the increasing incidence of such events *is* predictable. As the sociologist Eric Klinenberg wrote recently (2016):

This current period, which a growing number of scholars are calling the ‘age of extremes’, has been punctuated by significant disasters that change the way we understand risk, vulnerability, and the future of cities. Superstorm Sandy [on the Eastern seaboard of the United States] was neither the deadliest nor the most expensive catastrophe in recent US history, and in global terms its impact was far less severe than other 21st-century disasters, from the Indian Ocean tsunami in 2004 (which killed more than 200,000 people) to the pan-European heatwave of 2003 (which killed around 70,000 people).

To process the feeling of living among the ruins is no simple matter. Different people will feel it differently, or refuse to feel it at all. But it is worth stating the obvious: that to process it is not necessarily to succumb to fatalism. Sloganizing a response is not necessarily helpful either; so that, for example, one can rest content with wholesale blasts at capitalism without specifying what it is about capitalism that is so dangerous and how an entrenched political-economic system can be altered or abolished. To process is to take seriously the task of rethinking; and acting.

This rethinking needs, among other things, to pursue a philosophical track. For convulsive climate change does not only challenge the material civilization of human life. As the philosopher Samuel Scheffler (2013) has pointed out, it puts into question the values that undergird significant human endeavors. The largely unacknowledged impact of our awareness of convulsive climate change – along with the prospect of a devastating detonation of nuclear weapons – casts doubt on the likelihood of a ‘collective afterlife’. Indeed, after the nuclear explosions of 1945, the most farsighted scientists, though not so many politicians, recognized that the atomic bomb was not simply more destructive than other munitions, it presented an even more momentous challenge to collective thinking. Quite possibly, it was this sort of recognition that motivated Albert Einstein’s 1945 statement, ‘The release of atomic power has changed everything except our way of thinking.’ Unfortunately, these words are easier to pronounce than to take seriously.

The eruption of apocalyptic futures within the heart of modernity has been an intellectual bombshell. The dangers are no longer confined to the realm of prophecy. Since Mary Shelley’s *Frankenstein*, at least, dystopias have been repeatedly imagined as the products of human creation, not gods wreaking revenge on errant humanity. Posterity ceases to be an assumption and becomes a hypothesis. If artists, scientists,

builders, statesmen, and many others motivate their work with a mind to posterity, what happens when posterity cannot be taken for granted? The prospect of posterity is, for Scheffler, not only a minor fillip of speech but a foundational premise. He argues that ‘we need humanity to have a future for the very idea that things *matter* to retain a secure place in our conceptual repertoire’ (2013: 60). The belief that there will be a human future is the unspoken core of our values. ‘Our confidence in our values’, Scheffler concludes, ‘depends both on death, which is inevitable and which many of us nevertheless fear, and on the survival of human life, which is not at all inevitable and threats to which most of us do not fear enough’ (2013: 110).

If a sustainable future is not within reach, is our humanity not fundamentally curtailed? Do we not, then, live among the ruins of the future?

### Directions for Sociologists

Uncertainty about the personal future is a human condition, but even as we strive to conceptualize human interrelations in the light of technological change, collective uncertainty – uncertainty about the prospects for humanity as a whole – is now a shared fate. With shared uncertainty come benefits. The collaboration of governments in subscribing to the Paris Accord of December 2015 points to the potential, at least, for an unprecedented level of shared information and cooperation. The scale of the danger comes with knowledge that ‘we’re all in it together’. With shared information comes shared recognition. If we do live among the ruins of the future, there is benefit in knowing that others share this recognition and that a conversation about consequences and appropriate actions ought to be feasible. Intellectual life is also rising to the challenge. Not only the hard climate sciences but other fields – development and trade economics, agronomy, and public health among them – are seeking to address the emergence of new questions. It is increasingly recognized by economists outside the neoliberal consensus that the dumping of a firm’s costs into the public world may be a convenience for the firm but is blind to the consequences for the environment – the environment that is not just the surrounding but the medium in which all human action takes place.

In the necessary conversation, sociology has a significant part to play. But the field cannot be contented with 19th-century roots and 20th-century flowerings. In addition to opening up new approaches to a host of classical questions that now emerge on an unprecedented



scale – thus, the study of disasters, the study of the strengths and weaknesses of social planning, the impact of class on natural changes, the study of cultural change – sociology must now contend with a radical change in the human time horizon. Theoretical sociology aspired either to a picture of a single interconnected world or to a differentiating prism, but both models presupposed a future that would be no more than a continuation of one past or another. From such fragments of the past, sociology sought master concepts in order to compose master narratives, but all of them presupposed a ground of values that is now, and for the indefinite future, at risk. It is not that we need *less* theory, we need *more encompassing* theory that not only develops concepts but (1) is mindful of the ways in which thinking about the present presupposes assumptions about the future, theory that also (2) makes contact with concrete problems and (3) evaluates efforts underway to move toward – as well as away from – a sustainable world.

It would be too easy for sociologists to throw up their hands and confine themselves to pursuing more manageable analytical territories – to narrow their definition of data and to demote consideration of any imagined future altogether. But this would be to abandon the idea of humanity in favor of national and other sectoral surrogates. In a world so deeply at risk, there can now be no vision of a human future without reincorporating human nature into humanity and nature simultaneously.

I do not pretend to know how to go about a theoretical reconstruction of sociology. I offer only a few suggestions, hoping only to provoke some thought about territories to open up.

Sociology needs to take account, and urgently, of the melding of social and natural, because so-called nature is social – not ‘socially constructed’ as if from the void, but nature and society melted into each other. That we live in a Möbius strip world was grasped by Fernand Braudel and his colleagues of the *Annales* school. A replenishing of the *Annales* tradition is called for. Social histories need to take account of natural convulsions. But the merit of the *Annales* approach lies in no small degree in the modesty of its ambition, and this is also a feature to be emulated.

What is more speculative, but no less necessary, is to study the impacts of climate activists, social planners, and political agreements on culture and the conditions of life.

Generally, the study of social change needs to wrestle with a fundamental discrepancy between orientations in modern societies. It has been identified by Richard Flacks (1988) under the headings ‘making history’

and ‘making life’. Most people, under most circumstances, are content to ‘make life’. They cultivate and protect families, pursue interests, strive to increase their life-chances, adapt to transformed circumstances. Activists, on the other hand, strive to ‘make history’. However, also colored by personal desires, their projects occupy a larger canvas. Often their history-changing efforts begin with attempts to defend themselves – their lives, their livelihoods, their land, their health, their possessions, or some other dimension of their communities – against transformations from without. Their goals may well change. But however the impulse may first emerge, it develops toward an assumption that social arrangements are malleable and that coordinated human action can be effective. To greater or lesser degrees, social movements – as well as the social clusters that give rise to them, the organizations and parties that accompany or succeed them – think big not only about the levers they seek to pull but the larger social machinery they seek to engage.

For ordinary purposes, the close-up time horizon of everyday life is workable. The actions of everyday life deliver results; or in any case offer the possibility of doing so; or offer satisfactions – including the sense of belonging to a tradition – that compensate for the practical dubiousness of the outcomes. The imagination is not challenged to transcend everyday action. They seem, in any event, the only actions possible.

One question sociologists might usefully explore is whether growing awareness of the actuality and consequences of extreme climate change suggests something of a generational transition in thinking about the future. It is a staple of activists of all stripes that they claim to act on behalf of the future – for their children and grandchildren, at least. Is it the case that awareness of future prospects now colors the life-horizons of generations – at least in some situations – in a new way? Who now understands that posterity is at risk, and what do they do with that recognition? For that matter, is it necessary to understand that posterity is at risk in order to take constructive actions? What happens when people who share that understanding try to engage others who do not? What do we know about attempts to recruit climate activists from among populations – for example, evangelical Christians – one would assume to be relatively impervious to climate concerns.

Sociologists can do concrete research that may prove useful to campaigns to change climate-relevant policies. We need to map corporate and state power clusters and networks that presently invest in disruption for the benefit of the property and political interests. We need studies of

specific cases where disaster is being organized by the actions and inactions of social institutions. For disruptions are made to happen. Names need to be named and fingers pointed.

But it must be kept in mind that we are not beginning in Year Zero. Policy changes are underway. Shifts in energy generation are underway. Sociologists need to analyze the results of policies adopted – and not adopted – in various countries and regions. We need studies of successful and unsuccessful campaigns to convert toward sustainable energy. For a critical sociology does not stand on an exalted plane and decry the depredations that are all too easy to find. Sociology needs to engage with the practical activity of adaptation, mitigation, and resistance.

Last but by no means least, sociologists need to write in the vernacular. This may seem the most trivial of imperatives, and I realize that I am vulnerable to the charge that, throughout this present writing, I have not heeded my own advice. To this charge I plead guilty, though in my defense I would add that most of my own writing on climate is not for specialists. But even in this chapter I am mindful that the goal is not just to map hell but to change it. Sociology operates in society. It is the attempt to help society grasp its own situation, and the audience for that attempt is obviously social. The levers of potential change are in the hands of human beings who have no interest in jargon or the arcana of theory, even if, at times, it may be fruitful to conduct a specialized conversation. Communication with a larger public is not incidental. It is of the essence.

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