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Economic sociology, the natural environment, and the intellectual division of labor

Caleb Scoville

Suddenly it appears that the natural environment is at the front of sociologists' minds.¹ It's an exciting moment, but it's also a bit awkward. Environmental sociologists, alongside other environmental social scientists in adjacent disciplines and interdisciplinary fields, have been working on ecological crises and environmental inequalities for decades, but they have largely been relegated to the margins of sociology. How should economic sociologists navigate this complex intellectual landscape, in light of their track record of having little to say about nature, environmental issues, or climate change?

I can of course only provide a partial perspective on this topic, but I have spent more time stumbling across intellectual boundaries than I have fortifying them. I came to sociology relatively late in my intellectual development, after starting in economics and political science. I have so far refused to settle in a single subfield within sociology, and frequently collaborate with natural scientists and humanists. Despite my proclivity for intellectual trespassing, I have unwaveringly focused my attention on environmental problems all along. This has forced me to translate my concerns to others with different conceptual repertoires, including communities with little extant interest in the natural environment.

Needless to say, I welcome the current state of flux caused by an increased interest in the natural environment in economic sociology and "mainstream" sociology in general. Yet, whenever a field "discovers" an object like the natural environment, its practitioners will soon realize it is not a fresh discovery at all. Those new entrants will encounter incumbents who already have established ways of thinking about these things. It is worth considering why ecology has been so marginal in economic sociology, what demarginalizing it will do for the field, and conversely, what contributions economic sociologists might make to the topic. My reflections will be idiosyncratic and incomplete, but the general issues I raise are likely unavoidable.

This essay begins with a brief discussion of the marginality of the natural environment in economic sociology in particular, and sociology in general, and the challenges to sociological anthropocentrism that historically originated in environmental sociology and science and technology studies. It then proceeds with a discussion of a source of tension inherent in the project of demarginalizing ecology in environmental sociology: the status of natural science in sociological analysis. I suggest that economic sociologists are well-equipped to embrace a pluralistic approach to this question, rather than divide themselves into antagonistic camps.

I then take cues from Elliott's (2018, 302) distinction between the questions: "What can sociology contribute to climate change," and "What can climate change contribute to sociology?" To engage the question of what "ecologizing" economic sociology can do for economic sociology, I consider the example of environmental inequality. In ways that a focus on economic inequality does not, the study of environmental

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inequality reorients economic sociology to specific production processes and their concrete effects. Next is the question of what economic sociologists can contribute to the study of environmental problems and solutions. I suggest that the analytical repertoire of economic sociology can displace dichotomous theory contests that pit technocratic reform against revolu-

tionary transformation, by emphasizing the agonistic character of economic life, and how the technical and political are mutually constituted. I close with brief reflections on how economic sociologists can engage with the dominant incumbent social scientists in the arena of environmental policy: economists.

The marginality of nature in (economic) sociology

As recently as 2021, Gray and Barral (2021, 5) remarked in their “(rapid) climate audit of economic sociology” that the field of economic sociology was “barely warming up to the topic” of climate change. Although there has been discernable growth in interest in the intervening years, climate change remains marginal in economic sociology. To date, *Socio-Economic Review* has published only four articles with “climate change” in the abstract. Searching abstracts for the broader term “environmental” paints a similar picture. After excluding uses of the word unrelated to the natural environment, the search yields only six such articles ever published in *Socio-Economic Review*.

Economic sociology is hardly exceptional. Environmental problems have historically received little attention in sociology writ large. One explanation is simply that they fall outside of the dominant conception of the discipline’s jurisdiction. The idea that the division of labor between natural and social scientists denotes an ontological distinction between nature and society goes back at least to Durkheim’s ([1895] 1938) foundational writings on “social facts.” It remains well-ingrained in dominant research practices, publication hierarchies, and curricula in the broader discipline (Scoville and McCumber 2023; Hiltner 2024).

Environmental sociologists have criticized this traditional way of carving things up for decades. In an influential and programmatic statement, Catton and Dunlap (1980) argued against an intellectual division of labor that they believed ultimately led sociologists to assume that humans were fundamentally “exempt” from ecological laws or planetary limits. Their corrective centered on how humans are influenced by, dependent on, and constrained by the biophysical environment. Practically speaking, overcoming sociological anthropocentrism in this vein entailed bringing biophysical into sociological analysis.

A second major challenge to sociological anthropocentrism came from science and technology studies, an interdisciplinary field that has occasionally intersected with economic sociology. Rather than revalue “nature” by incorporating biophysical data into sociological analysis, proponents of Actor-Network

Theory (Latour 1987; Callon 1984), alongside defenders of a host of adjacent “new materialist” approaches, took issue with the conceptual division between “Nature” and “Society” altogether and instead argued for distributing agency more broadly to include non-humans.

These two criticisms of sociological anthropocentrism – one that limits human agency by embedding it in ecology, and another that distributes agency beyond the human – each raise complex ontological, epistemological, and methodological questions that traditional sociology tends to sidestep. Those who sought to demarginalize the nonhuman/natural environment subsequently divided themselves into various camps that answered these questions in divergent ways. Within environmental sociology, a result was the divide between “realists” and “constructivists” (Dunlap 2010).

Navigating tensions in the project of ecologizing economic sociology

The realist-constructivist debate in environmental sociology exhausted itself years ago, but how to treat natural science remains problematic in the environmental social sciences. Porcelli and Besek (2022) aptly conceive of the tension in terms of treating natural science as a *resource for analysis* (i.e., treating biophysical data as data) versus as an *object of analysis* (i.e., critically analyzing how natural science is made).

Economic sociologists are well-equipped to embrace this tension, rather than be paralyzed by it. There is no need to reproduce old debates or divide the field into acrimonious factions. Rather, in my view, the best way forward is to think through the relationship between the heterogeneous categories like “biophysical data,” “nonhuman agency,” and “sociological analysis” in an unapologetically concrete manner. The already pluralistic subdiscipline can accommodate multiple ways of renegotiating the division of intellectual labor.

Consider first a mode of analysis that can respond to the charge of sociological anthropocentrism without fundamentally changing course. Studying the relationship among greenhouse gas emissions, macroeconomic variables, and public policies, for instance, fits the mold of traditional quantitative socioeconomic analysis, while also accounting for the relationship between society and nature (e.g., Soener 2024; Rieger 2019).

Such analyses of course delegate the question of the implications of carbon emissions to climate scientists, and for good reason. The problem structure of the social causes of climate change is particularly

amenable to this division of labor. Climate scientists explain the relationship between anthropogenic greenhouse gas emissions and global climate change with a high degree of certainty. Social scientists, on the other hand, have a comparative advantage in explaining why greenhouse gas emissions vary across and within societies, and over time.

In other contexts, however, such a neat delegation is not possible, and this is where the classic environmental sociological critique becomes more challenging to absorb. Far from simply being “out there,” ecological knowledge is often produced in conjunction with extractive relations to nature that make our economic lives possible. In my research on water politics and endangered species conservation in the American West, for instance, I find that a species called the Delta Smelt was discovered as a consequence of the construction of California’s modern water infrastructure system that supports the state’s agricultural industry and southern cities. The scientific knowledge of this species in turn became a problem for those reliant constituencies when the Delta Smelt was given protected status under the United States Endangered Species Act and scientists showed that the operation of the very infrastructure that made its discovery possible was to blame for its decline (Scoville 2019). In this work, biophysical data is not an “input” in the socioeconomic analysis. It is both an outcome to be explained and a phenomenon with causal force.

In some ways, these varied encounters with natural science parallel the longstanding relationship between economic sociology and economists. Economic sociologists frequently appropriate traditional economic data as resources for their own analyses, whether it is for understanding the dynamics of economic growth, wealth inequality, or financialization. In others, economic sociologists analyze the construction of economic data, indicators, algorithms, and devices themselves (e.g., Espeland and Stevens 1998; Pardo-Guerra 2019).

These two modes of analysis, while sometimes in tension, can ultimately enrich each other. A better understanding of the social contingencies that underlie economic datasets can lead to more robust and thoughtful uses of them. This is also true of environmental data that is used in political and economic decision-making. For example, drawing on an analysis of global biodiversity datasets, my colleagues and I argue that if used uncritically to inform investment in conservation initiatives or the design of biodiversity offset markets, they could reproduce the very social inequalities that unevenly pattern the collection and maintenance of biological data (Chapman et al. 2024). While there is no single technical fix to this problem, a more reflective use of biodiversity data is the precondition

of more ecologically sound, economically efficient, and socially just policy design.

Yet there are significant differences between the traditional objects of economic sociology and those of environmental social science that add a layer of complexity to the task of ecologizing economic sociology. Disagreements between economic sociologists and economists are often grounded in competing conceptions of the same analytical objects, for instance, human agency, and markets. The relationship between economic sociology and natural science is fundamentally different. Economic sociologists have less natural authority over the domain of “nature” itself. Instead of providing competing social scientific frameworks for understanding economic phenomena, they will encounter knowledge claims about phenomena like sea level rise, air pollution, greenhouse gas emissions, biodiversity loss, and a whole host of phenomena outside of their traditional jurisdiction.

No matter the style of analysis one engages in, participating in the project of ecologizing economic sociology requires some degree of conversancy with concrete environmental problems, and by extension relevant natural science. Compared to the traditional objects of economic sociology, focusing on environmental problems involves a significant shift in the direction of empirical specificity and concreteness. This can be illustrated by considering the analytical differences between environmental and economic inequality.

Inequality of what?

The study of environmental inequality – how and why environmental harms and benefits are distributed in society – is a central focus of environmental sociology. Following the concerns of the American environmental justice movement, much of this work is conducted at the community level, such as analyzing the race and class disparities in toxic siting decisions (Taylor 2014). A growing body of work on “ecologically unequal exchange,” by contrast, takes a global view, which situates cross-national and regional environmental inequalities in a world system framework (Givens, Huang, and Jorgenson 2019).

At one level, this is familiar ground for economic sociologists. Inequality as such is a mainstay of the field. However, economic sociologists tend to conceive of and measure inequality in monetary terms. For all of economic sociologists’ critiques of economists, this is something that the two fields share.

Environmental inequalities – which range from air and water pollution to vulnerability to hurricanes, to access to greenspaces – have no such single numéraire

re. This is not merely an accounting problem. It matters little *what* is being made, bought, and sold if the outcome in question is commensurate throughout the economy. In other words, treating monetary value as the primary measure of inequality has allowed economic sociologists to discuss inequality at a high level of generality and abstraction.

A limitation of this analytical posture is that markets begin to look not only like each other but also like any other social institution. An emphasis on environmental inequalities shifts the focus to the materiality of what is being distributed, and its concrete impact on people (e.g., exposure to toxins or hazards). Ultimately, this means reorienting economic sociological analysis to production processes, including but not limited to the extraction of natural resources, manufacturing, and the articulation of supply chains.

Environmental inequality is an obvious topic for economic sociology because at every stage of economic production, consumption, and waste disposal, some costs are not borne by formal parties to the eventual market transaction. Economists conceptualize such spillover effects as “externalities,” which can be remedied with interventions in the price system. Economic sociologists can and have adopted such interventions as objects of analysis (e.g., Fourcade 2011; MacKenzie 2009; Callon 1998).

But economic sociologists’ potential contribution to the topic of externalities goes beyond the critique of economic orthodoxy. Economic sociologists needn’t look further than the writings of their own foundational figure Karl Polanyi (1944) for inspiration on this topic. While economic sociologists made much of Polanyi’s idea that markets are “socially embedded” (Krippner 2001), they have made less of his writings on the embeddedness of markets in nature (Kaup 2015). A focus on environmental inequalities will redirect economic sociology to how specific economic production processes are embedded in ecological systems, and how the effects of those processes are distributed socially.

Problems, technical and political

If contending with environmental inequality illustrates how ecology can enhance economic sociology, there are other ways that economic sociology can make significant contributions to the broader study of environmental problems, despite their historical ecological neglect.

There are reasons why economic sociologists are becoming increasingly interested in ecology now. The same trends that are turning many environmental problems into mainstream sociological objects are

also changing their concrete character. Among these trends, the most obvious – and dire – is that humanity is careening into uncharted climatic territory (IPCC 2024). At the same time, while fossil fuels remain thoroughly ingrained into every aspect of social life (Huber 2013), the politics and economics of energy are in flux. In the last several years, the deployment of solar energy has wildly exceeded estimations (Nijssen et al. 2023), driven by the plummeting cost of solar deployment (Evans 2020). On the political side, changes are afoot as well. In many countries around the globe, concern about climate change is at an all-time high (Poushter, Faga, and Gubbala 2022). In the United States, a relative bastion of climate obstruction and denial, for the first time, climate change has risen to be a “top priority” issue for a majority of Democratic voters, partly explaining why the Biden Administration was able to push the most significant federal climate action in American history, the Inflation Reduction Act (Egan and Mullin 2024).

From the standpoint of environmental sociology’s most prominent and longstanding political economic debate, these developments are a bit of a theoretical Rorschach test. Proponents of ecological modernization theory will see evidence vindicating their view that policy reforms and technological innovation can resolve the conflicts between nature and society (Spaargaren and Mol 1992; Mol, Spaargaren, and Sonnenfeld 2014). Their Marxian counterparts will point to the ever-accelerating treadmill of production, or the widening metabolic rift that the nascent energy transition has hardly disrupted, perhaps representing only a newly opened frontier of unsustainable extraction (Gould, Pellow, and Schnaiberg 2004; Clark, Bellamy Foster, and Longo 2019). This debate turns on two opposing conceptions of progressive social change: technocratic reformism versus those who argue for the necessity of a “revolutionary transformation in the socioeconomic relationships that govern our productive lives” (Clark, Bellamy Foster, and Longo 2019, 658).

The relative merits of these positions aside, the *structure* of this debate – an either-or theory contest about the relationship between capitalism and the natural environment – is markedly different from the ones that animate economic sociology. In my reading, economic sociologists generally espouse an agonistic view of social change and stability. This lends itself less to absolute or fixed positions on the (im)possibility of green capitalism, and instead to an empirical focus on the dynamic struggle among incumbent and challenger firms, and states. This is a conception, in Fligstein’s (1996) terms, of “markets as politics.”

To be sure, viewing markets as politics does not resolve broader debates or render them obsolete. In-

stead, it orients analysis toward the “how” questions of market construction and transformation and understanding the relationships among state, market, and non-institutional actors empirically. Whether or not the rise of the renewable energy sector and the electrification of the automobile industry (to name just two high-profile examples) will help us mitigate climate catastrophe, these changes can still be analyzed as dynamic incumbent-challenger struggles rather than merely as fodder for the debate over whether or not capitalism as such can be greened in some definitive sense.

This analytical orientation similarly displaces the common refrain that ecological problems are “political economic,” rather than “merely technological.” Instead, it draws attention to how technologies such as energy systems reshape the political terrain by altering the balance of power, and enabling and constraining forms of collective life. As Mitchell’s (2013) history of fossil fuels shows, the transition from coal to oil reshaped political economic relations at multiple scales. This included, for instance, a decline in labor’s ability to obstruct the flow of energy to exact demands and Western democracies’ material reliance on Middle Eastern petrostates. Economic sociologists are well-equipped to similarly analyze the political dynamics of the rise of solar and wind, the scramble for minerals used to make batteries (Battistoni and Riofrancos 2023), and what will happen to the most carbon-intensive economic sectors in the face of these changes (Beckfield and Evrard 2023).

Interrupting the dominance of economists

Environmental issues may be finally moving from the margins of sociology to the mainstream, but not all social scientific disciplines have been equally neglectful of nature in the past. Anyone who wanders into the world of environmental decision-making will see that, as in many other policy domains, traditional economic analysis is a powerful force (Elliott 2018; Berman 2023). It has been for decades. Yet, for all of economic sociologists’ criticisms of economists, they have by and large not followed economists into the terrain of environmental policy. With traditional economic thinking unchallenged, environmental scientists often uncritically adopt analytical toolkits from neoclassical economists to operationalize their findings and communicate them to policymakers (Scoville 2017).

Important exceptions exist. One variant has been to extend the analytical approach of the “perfor-

mativity” of economics to environmental applications. MacKenzie (2009) has done much to open up the black box of how greenhouse gas emissions markets are constructed. Taking the approach into the context of international development, Gray (2017) delves into the unintended environmental and social consequences of climate finance.

Work extending economic performativity to environmental contexts moves beyond taking the self-stylizations of environmental economists at face value, but it still places economists and their constructions at the center of the analysis. Others show the limitations of economists’ conceptions of actually existing environmental policy and forward alternative diagnoses. One example is Rea’s (2017) research on species conservation banking. Rea forwards a theory of “command-and-commodify regulation,” which moves beyond economists’ dichotomous characterization of environmental regulation as either “market-based” or “command-and-control” in a political and institutional framework.

Economic sociologists have been more hesitant to offer policy proposals that directly challenge economists’ dominance in the environmental domain. However, they can take inspiration from political scientists like Stokes (2020), whose work on policy feedbacks in energy policy has contributed to shifting the policy consensus away from microeconomic orthodoxy. The focus on policy feedbacks – the observation that while politics create policy, policy can also shape politics – is a marked departure from traditional economists’ singular focus on Pareto efficiency. It explains why traditional climate solutions like carbon taxes and tradeable emissions permits often produce backlash rather than buy-in and are so vulnerable to retrenchment (see also Driscoll 2023). It stands behind the emphasis on subsidies rather than taxes in the Inflation Reduction Act, the development and passage of which may not have happened without advocacy from Stokes herself (Welsh 2023). With the rise of the green industrial policy paradigm (Meckling 2021), the time is ripe for economic sociologists to contribute their understanding of how to make environmental policies that are effective, durable, and just. The stakes are too high to remain at the margins.

Note

- 1 In this essay, I treat the terms “natural environment,” “environment,” “nature,” and “ecology” as essentially interchangeable, while acknowledging that the terms have distinct meanings in other contexts.

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