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Rethinking Domination in the Age of the Externality

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NOMOS 2023

While as recently as a decade ago climate change was still viewed as a problem of the distant future, today it is one whose effects are now plainly obvious: in punishing heat waves which have swept through India and Europe; wildfires in Australia and smoke clogging North American cities; megadroughts in the Horn of Africa and flooding in Pakistan; cyclones striking Mozambique and hurricanes devastating Caribbean island states. Thus far temperatures have risen (only) 1.1°C from pre-industrial temperatures; they are projected to rise to 2.5° C or more by the end of the century. In political discourse it has become routine in recent years, to the point of cliché, to describe climate change as an “existential threat.” Within economics, however, these extraordinary transformations are frequently traced to a technical and seemingly minor cause: the absence of price. As the economist Nicholas Stern famously observed in 2007, “greenhouse gas emissions are externalities, and represent the biggest market failure the world has seen.”¹ Externalities occur when economic activity causes costs for third parties which are not reflected in the costs to the producer, such that they are not taken into account in decision-making. The solution to climate change, on this view, consists in “internalizing the externality”: incorporating unpaid costs into prices so the market can work as promised. The externality has been at the heart of major environmental policy frameworks since the late twentieth century, and climate policy especially, most prominently via carbon taxes and cap-and-trade programs.² These have, in turn, been taken up in moral philosophy oriented towards

¹ Nicholas Stern, *The Economics of Climate Change: The Stern Review* (Cambridge: Cambridge University Press, 2007), 27.

² For a few representative examples see Gernot Wagner and Martin Weitzman, *Climate Shock: The Economic Consequences of a Hotter Planet* (Princeton: Princeton University Press 2015); William Nordhaus, *The Climate Casino: Risk, Uncertainty, and Economics for a Warming World* (New Haven: Yale University Press: 2013); Gilbert E. Metcalf, *Paying for Pollution: Why a Carbon Tax is Good for America* (Oxford: Oxford University Press: 2019).

policy recommendations and decried by critics of economism.³ Yet the concept of the externality itself has gone strikingly unexamined in political theory and philosophy.⁴

This paper argues that understanding climate change demands more critical analyses of political economy, and that the externality offers a rich entry point to such an analysis. The externality, after all, is fundamentally concerned with the divergence between private and social interests; between individual and collective action; and between intentions and consequences—all themes of vital interest to current debates about climate change, as well as to thinking about politics writ large. It opens up major questions about how intent, agency, and responsibility are organized by the political economic system upon which nearly all human beings now rely for our livelihoods—capitalism, a system which now stands alone.⁵ Indeed, attention to the externality is only the latest iteration of a longstanding debate about the significance of unintended consequences and the relationship between the political and economic spheres.⁶ In the eighteenth century, Adam Smith famously argued that the pursuit of self-interest tended, however unintentionally, to generate collective wellbeing, whereas intentional state action frequently undermined it; in the nineteenth, Karl Marx “stood Adam Smith on his head” by pointing to the perverse unintended consequences of this pursuit.⁷ Capitalism’s recurring crises, for Marx, were just as much the unintended product of aggregated market choices as its generation of wealth, arguing instead for rational self-governance. By the mid-twentieth century, anxiety about unintended consequences had become pervasive:

³ See, for example, John Broome, *Climate Matters: Ethics in a Warming World* (W.W. Norton 2012); Ravi Kanbur and Henry Shue, *Climate Justice: Integrating Economics and Philosophy* (Oxford: Oxford University Press 2018); Mark Budolfson, Tristram McPherson, and David Plunkett, *Climate Change and Philosophy* (Oxford: Oxford University Press 2021); John O’Neill, *Ecology, Policy, and Politics: Human Well-Being and the Natural World* (London: Routledge, 1993); Mark Sagoff, *The Economy of the Earth: Philosophy, Law, and the Environment*, 2nd ed. (Cambridge: Cambridge University Press, 2008); Michael J. Sandel, “It’s Immoral to Buy the Right to Pollute,” *New York Times*, December 15, 1997; Michael Sandel, *What Money Can’t Buy: The Moral Limits of Markets* (New York: Farrar, Straus, and Giroux: 2012); Debra Satz, *Why Some Things Should Not Be for Sale: The Moral Limits of Markets* (Oxford: Oxford University Press: 2010).

⁴ Melissa Lane notes this surprising absence in a recent review of the literature: see “Political Theory on Climate Change,” *Annual Review of Political Science* 19 (2016), 107-23. More generally, philosophers who do not flinch from questioning received moral wisdom are often surprisingly prone to accepting economic concepts at face value.

⁵ Branko Milanovic, *Capitalism, Alone: The Future of the Economic System that Rules the World* (Cambridge: Harvard University Press, 2019).

⁶ Steven G. Medema, *The Hesitant Hand: Taming Self-Interest in the History of Economic Ideas* (Princeton: Princeton University Press, 2009).

⁷ Jon Elster, *Logic and Society: Contradictions and Possible Worlds* (Chichester and New York: John Wiley & Sons, 1978): 108; Jon Elster, *Making Sense of Marx* (New York: Cambridge University Press, 1984): 24-26. On unintended consequences, see Daniel Luban, “What Is Spontaneous Order?” *American Political Science Review* 14, no. 1 (2020): 68-80; Richard Vernon, “Unintended Consequences,” *Political Theory* 7, no. 1 (1979): 57-73.

variously described in terms of counterfinality, tragedy, and reflexive modernity.⁸ Notably, many of these theories, even when articulated by non-environmental thinkers, deal explicitly with the effects of action on the natural world, illustrated by examples of peasants, shepherds, pollution, or fishermen. It should therefore not surprise us that, on closer inspection, the history of the externality in economic thought is at its heart the history of economists encountering the environment: of economists seeking to grapple with and contain the effects of economic activity in the material world amidst shifting political and economic circumstances. Similarly, it is no coincidence that the history of the concept is effectively contemporaneous with that of the Great Acceleration: although first raised in the early twentieth century as a minor flaw to be redressed by economists, the externality would only become the subject of sustained attention in the face of explosive postwar growth, before coming, in the early twenty-first century, to particular prominence in debates about climate change.⁹

Upon stepping back from the epistemic framework generated by this contingent history, however, it is remarkable that a phenomenon described as an “existential threat” to humanity has been reduced to a problem of missing prices. It is only under conditions in which most things are bought and sold that this could be the case—and this is a remarkably recent feature of human history. Most theorists of the externality treat markets as an ideal type of allocation mechanism—a means by which goods (or bads) might be distributed via exchanges negotiated amongst individual actors. But the condition of market dependence, in which most people obtain most of what they need to survive through exchange rather than through subsistence activity, is a unique and defining feature of capitalism in particular as a system of political and economic organization.¹⁰ It is this dependence that makes the prospect of market failure so threatening—and so rich for political interrogation. In systems of logic or infrastructure, it is often the points of failure that are most revealing, and this is no less true of so-called “market failure.” Although externalities are frequently

⁸ Jean-Paul Sartre, *Critique of Dialectical Reason*, ed. Jonathan Rée, trans. Alan Sheridan-Smith, vol. 1 (London: Verso, 2004); Garrett Hardin, “The Tragedy of the Commons,” *Science* 162 no. 3859 (December 1968): 1243–48; Ulrich Beck, *Risk Society: Towards a New Modernity*, trans. Mark Ritter (London: SAGE, 1992).

⁹ A. C. Pigou, *The Economics of Welfare* (London: Macmillan, 1920); Nicholas Stern, “The Economics of Climate Change,” *American Economic Review* 98, no. 2 (May 2008): 1–37. See for instance Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962); E. J. Mishan, *The Costs of Economic Growth* (New York: F. A. Praeger, 1967); E. J. Mishan, “The Postwar Literature on Externalities: An Interpretative Essay,” *Journal of Economic Literature* 9, no. 1 (1971): 1–28; Fred Hirsch, *Social Limits to Growth* (Cambridge: Harvard University Press, 1976). See also Medema, *The Hesitant Hand*.

¹⁰ Ellen Meiksins Wood, “The Question of Market Dependence,” *Journal of Agrarian Change* 2, no 1 (2002): 50–87; Robert Brenner, “The agrarian roots of European capitalism,” *Past & Present* (1982): 16–113.

treated as an exception to the rule, they illuminate the rules themselves: how markets are *supposed* to work. The externality, in other words, is not an error or absence in the market, but rather an extreme example of how markets *normally* function, and what they are supposed to do.

This paper shows how this approach to the externality reframes three widely discussed features of climate politics: the distribution of effects; the question of moral agency and responsibility; and the uncertainty that often accompanies environmental effects. Within political philosophy, climate change is perhaps most widely understood as a problem of justice in distribution: it is frequently noted that both the benefits of carbon-intensive activities and harms of carbon are unevenly distributed, in ways that tend to exacerbate existing forms of inequality and oppression.¹¹ Many have argued, in turn, that high carbon emitters have a moral obligation to reduce emissions, at either the individual or collective level, while calling for a reevaluation of action itself in light of what climate change seems to reveal about “fractured” or “distributed” agency.¹² In these discussions, climate change is frequently understood, following Derek Parfit, as an “aggregation problem”—the unexpected result of a huge number of individually harmless decisions.¹³ By treating environmental problems primarily as a matter of scale (and thus, effectively, as matters of population), however, these accounts tend to draw too direct a link between action and effect, one that fails to address the way that individual agency is channeled and mediated by both social institutions and the material world.

I therefore attend to what Iris Marion Young describes as the “social structural processes” which shape our relationships to one another—as well as to the more-than-human world.¹⁴ Read thus, the externality points not only to the uneven distribution of “costs and benefits” but to the foundational inequality in social power which is constitutive of capitalist societies. It reveals the extent to which we have already abdicated judgment to the market, and accepted freedom as what

¹¹ For a few important works in a considerable literature see Steve Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (Oxford: Oxford University Press, 2008); Stephen M. Gardiner, *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford: Oxford University Press, 2011); Henry Shue, *Climate Justice: Vulnerability and Protection* (Oxford: Oxford University Press, 2014); Simon Caney, “Climate Change, Intergenerational Equity and the Social Discount Rate,” *Politics, Philosophy & Economics* 13, no 4 (2012): 320–342; Lucas Chancel and Thomas Piketty, “Carbon and Inequality: From Kyoto to Paris” (Paris School of Economics, November 2015); “Extreme Carbon Inequality” (Oxfam, 2015). I do not address Derek Parfit’s ‘non-identity’ problem, which I think has been an unfortunate distraction for many philosophers.

¹² Respectively, Gardiner, *A Perfect Moral Storm*, and Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010).

¹³ Derek Parfit, *Reasons and Persons* (Oxford 1984); see discussion in Vanderheiden, *Atmospheric Justice*.

¹⁴ Iris Marion Young, *Responsibility for Justice* (Oxford: Oxford University Press, 2011): 11.

Eric MacGilvray calls “nonresponsibility.”¹⁵ It underlines the ubiquity of externalities within an ecological framework in which interconnection is foundational, and external effects are not only inevitable but necessary: they are, constitutively, how ecosystems work. Thus situated, I argue that the challenges posed by externalities are best understood not merely through the familiar frames of distributive justice or responsibility, but instead through the lens of *domination*: the structural domination of class society, the abstract domination of the market, and what I describe as *materially mediated* social domination—the way that social relations are expressed in and through the biophysical world. This novel account draws on and adds to recent work in political theory expanding the concept of domination beyond its republican and neo-republican foundations.¹⁶ I understand domination as structural, following analyses which identify the class relations central to capitalism as an arbitrary source of power, while showing how this form of power permeates aspects of economic life beyond the workplace or labor-capital relationship. Although markets are often read as counters to arbitrary power, I argue that this condition of “nonresponsibility” actively undercuts our ability to make meaningful choices about our lives, both individually and collectively. Finally, while I retain the idea that domination is necessarily a social relationship between human beings, I also emphasize that these social relations are always and inevitably realized in and through the material world, and actually give rise to material phenomena often classified as natural.¹⁷

¹⁵ Eric MacGilvray, *Liberal Freedom: Pluralism, Polarization, and Politics* (Cambridge: Cambridge University Press, 2022).

¹⁶ Domination is not an intuitively applicable concept. In the republican tradition, it is typically understood as the arbitrary power of one person over another, considered in terms of intentional, interpersonal action. Unintentional effects of action, structural forces, and natural elements are not, in these accounts, typically understood as sources of domination. Yet as a result, both classical and neo-republican theorists have struggled to come to terms with the forms of domination which characterize capitalist societies and with the interaction between human and nonhuman beings. For central texts in the burgeoning “radical republican” tradition, see Alex Gourevitch, *From Slavery to the Cooperative Commonwealth* (Cambridge: Cambridge University Press, 2014); Bruno Leipold, Karma Nabulsi, and Stuart White (eds.) *Radical Republicanism: Recovering the Tradition’s Popular Heritage* (Oxford: Oxford University Press, 2020); Corey Robin and Alex Gourevitch, “Freedom Now,” *Polity* 52, no. 3 (2020): 384–398; Tom O’Shea, “Socialist Republicanism,” *Political Theory* 48, no. 5 (October 2020): 548–572; Lillian Cicerchia, “Structural Domination in the Labor Market,” *European Journal of Political Theory* 2019: 1–21; Elizabeth Anderson, *Private Government* (Princeton: Princeton University Press, 2017); for an argument about domination applied to environmental questions see Sharon Krause, “Environmental Domination,” *Political Theory* 48 no. 4 (2020): 443–468.

¹⁷ A brief point about the level of this paper’s argument: in contrast to work in moral philosophy bringing ideal theory to bear on policy recommendations—a curious combination, in my view—I do not see this paper as a direct contribution towards a solution, or even an argument against policies rooted in the theories of externalities here discussed, but rather as an effort to identify their logics, conflicts, and limits. Similarly, I do not offer critique of capitalism in the conviction that it must be transcended in order to avert climate catastrophe, but in the belief that understanding the systemic forces at work, and how policy proposals operate within them, is a necessary complement to (rather than substitute for) practical recommendations.

I. A critical history of the externality

A pall over liberalism: Arthur Pigou and the birth of the externality

Writing at the height of England's early and tumultuous industrialization, the British welfare economist Arthur C. Pigou (1877-1959) noted that the production of commodities was often accompanied by unintentional but sometimes severe material effects. To theorize this problem he built on a conceptual architecture inherited from the "marginalist revolution" of the 1870s, which had abandoned substance theories of value in favor of the subjective judgment of personal utility.¹⁸ Early twentieth century welfare economics, to which Pigou was a pioneering contributor, sought to integrate these methodological insights with utilitarian ethics, with the goal of developing a truly scientific study of social welfare.¹⁹ Prices were crucial to this project: they were, as the highly influential English marginalist Alfred Marshall (and Pigou's teacher) observed, "the one convenient means of measuring human motive on a large scale."²⁰ Marshall nevertheless freely admitted that money was a crude measure which failed to capture all effects of economic activity. This difficulty was recognized by many economists, but first discussed in systematic detail by Pigou's classic *The Economics of Welfare* (1920).²¹ Following Marshall, Pigou argued that assessments of economic welfare had to use "the measuring rod of money," even if some things were beyond its scope.²² He acknowledged, however, that this method sometimes produced "violent paradoxes" wherein welfare and price diverged.²³ He described such instances, where prices failed to reflect the effects of production on society at large, as "external economies."

For more politically programmatic statements see Kate Aronoff, Alyssa Battistoni, Daniel Aldana Cohen, and Thea Riofrancos, *A Planet to Win: Why We Need a Green New Deal* (New York: Verso 2019); Alyssa Battistoni, "Climate Still Changes Everything," *Dissent* Spring 2023; Alyssa Battistoni, "Sustaining Life on This Planet," in *Democratize Work: The Case for Reorganizing the Economy*, eds Isabelle Ferreras, Julie Battilana, and Dominique Méda (Chicago: University of Chicago Press, 2022): 103-110.

¹⁸ R. D. Collison Black, Alfred William Coats, and Craufurd Goodwin, eds., *The Marginal Revolution in Economics: Interpretation and Evaluation* (Durham: Duke University Press, 1973).

¹⁹ A. C. Pigou, *Wealth and Welfare* (London: Macmillan, 1912), 3; see also Ian KumeKawa, *The First Serious Optimist: A. C. Pigou and the Birth of Welfare Economics* (Princeton: Princeton University Press, 2017); Medema, *The Hesitant Hand*.

²⁰ Alfred Marshall, *Principles of Economics*, 2nd ed., vol. 1 (London: Macmillan, 1891), 76.

²¹ Published in its first edition as *Wealth and Welfare* (1912).

²² On Pigou's notion of welfare, see Philipp Lepenies, *The Power of a Single Number: A Political History of GDP* (New York: Columbia University Press, 2016); KumeKawa, *The First Serious Optimist*.

²³ Pigou, *Economics of Welfare*, 31.

The valence of the “external economy” was not always negative: sometimes private producers accidentally generated unpriced social benefits.²⁴ Pigou’s central example of an external effect, however—destined to become the textbook case—was a negative one: a factory with a smoky chimney.²⁵ The chimney smoke imposed costs on the community at large—“in injury to buildings and vegetables, expenses for washing clothes and cleaning rooms, expenses for the provision of extra artificial light, and in many other ways”—which were not reflected in the costs to the factory owner.²⁶ Thinkers like Adam Smith and Bernard Mandeville had famously proposed that the pursuit of individual self-interest was the best way of increasing the common good.²⁷ But in certain cases, Pigou argued, the pursuit of private wealth tended to *diminish* public welfare rather than increasing it. Fortunately, these problems seemed to be relatively rare and easily rectified. Where the market failed to secure social benefits, Pigou argued, the state was justified in intervening to address the disparity.²⁸ It could estimate the costs of external effects and incorporate them into the price of relevant goods through a tax or similar pricing mechanism.²⁹

For the next several decades most economists followed Pigou’s view of externalities as an instance of “market failure” in which markets failed to optimally allocate resources, but a negligible one which could be solved with minor adjustments. Externalities remained a footnote to the canons of price theory in this period: they were, in the words of one midcentury welfare economist, “exceptional and unimportant.”³⁰ As postwar economic growth and material throughput skyrocketed, however, pollution problems emerged or exploded across the industrialized world.³¹ Externalities suddenly began to appear ubiquitous and significant—and a concomitant economic literature exploded. In this context, Pigou’s suggestion that externalities constituted a potentially

²⁴ Pigou, 160.

²⁵ It is not surprising that a British economist in this time wrote on smoke: Pigou cited the astonishing observation that in London, “owing to the smoke, there is only 12 percent as much sunlight as is astronomically possible, and that one fog in five is directly caused by smoke alone.” Pigou, 160fn3.

²⁶ Pigou, 161.

²⁷ Pigou himself noted that Smith’s view of the invisible hand was more nuanced than it was often portrayed. Medema, *The Hesitant Hand*; see also Eric MacGilvray, *The Invention of Market Freedom* (Cambridge: Cambridge University Press, 2011); Albert O. Hirschman, *The Passions and the Interests: Arguments for Capitalism Before its Triumph* (Princeton: Princeton University Press, 1977).

²⁸ Pigou, *Economics of Welfare*, 111-113. In particular, Pigou referenced Smith’s argument in the *Wealth of Nations* that government should provide goods which markets would not. See Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (Oxford: Oxford University Press, 1976).

²⁹ Pigou, *Economics of Welfare*, 111, 493. To this day, economists term such taxes a “Pigovian” approach.

³⁰ Tibor Scitovsky, “Two Concepts of External Economies,” *Journal of Political Economy* 62, no. 2 (1954): 143; see also Steven G. Medema, “‘Exceptional and Unimportant’?: Externalities, Competitive Equilibrium, and the Myth of a Pigovian Tradition,” *History of Political Economy* 52, no. 1 (February 1, 2020): 135–70.

³¹ Carson, *Silent Spring*; Mishan, *The Costs of Economic Growth*; Hirsch, *Social Limits to Growth*.

systematic “market failure” began to serious concern champions of free markets, and the emerging formation of neoliberal economists of the Chicago and Virginia Schools in particular.³² Pigou’s account of disparities between private and public wellbeing seemed to cast a smoggy pall over the happy Mandevillian marriage of the individual and common good.³³ Some economists went so far as to suggest that these “social costs” undermined the case for private enterprise altogether.³⁴ This was not necessarily a problem for economics itself, which had largely rejected the idea that social welfare could be calculated in the aggregate and adopted in its place the far narrower standard of Pareto efficiency.³⁵ But members of the public were often concerned with public welfare, in the broad sense, even if economists were not.

The externality was also a problem for the increasingly hegemonic view of markets as expressions of individual liberty.³⁶ Markets were championed as sites of consensual exchange, in contrast to the coercive force of the state—and yet externalities imposed costs on people who had *not* consented to bear them. People forced to breathe particulate matter had not agreed to do so; nor were they compensated with a share of the benefits enjoyed by those generating pollution. Why was this non-consensual infringement on bodily autonomy acceptable where, say, forced labor was not? The externality framework highlighted a proliferating number of cases in which exchange appeared to violate a liberal tenet as foundational as John Stuart Mill’s harm principle.³⁷ No less a libertarian than Robert Nozick would struggle, in his *Anarchy, State, Utopia* (1974), to reconcile a moral framework organized around the inviolable Kantian individual with the fact that nearly all actions

³² On the significance of externalities to neoliberal thought, see Thomas Biebricher, *The Political Theory of Neoliberalism* (Stanford: Stanford University Press, 2018).

³³ Medema, *The Hesitant Hand*; see also Frank Hahn, “Reflections on the Invisible Hand,” Warwick Economics Research Paper Series (Coventry: University of Warwick, 1981).

³⁴ K.W. Kapp, *The Social Costs of Private Enterprise*.

³⁵ Roger E. Backhouse, “Economics,” in *The History of the Social Sciences since 1945*, ed. Roger E. Backhouse and Philippe Fontaine (Cambridge: Cambridge University Press, 2010), 38–70; Lionel Robbins, *An Essay on the Nature and Significance of Economic Science*, 1st ed. (London: Macmillan, 1932); Lionel Robbins, “Interpersonal Comparisons of Utility: A Comment,” *The Economic Journal* 48, no. 192 (December 1938): 635–41; Nicholas Kaldor, “Welfare Propositions of Economics and Interpersonal Comparisons of Utility,” *The Economic Journal* 49, no. 195 (1939): 549–52; J. R. Hicks, “The Foundations of Welfare Economics,” *The Economic Journal* 49, no. 196 (1939): 696–712.

³⁶ Friedrich Hayek, *The Road to Serfdom: Texts and Documents* ed. Bruce Caldwell (Chicago: University of Chicago Press, 2007); Milton Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962). See also William Callison and Zak Manfredi, *Mutant Neoliberalism: Market Rule and Political Rupture* (New York: Fordham University Press: 2020); Wendy Brown, *Undoing the Demos: Neoliberalism’s Stealth Revolution* (New York: Zone 2015).

³⁷ See an extensive discussion in Medema, *The Hesitant Hand*, 26–53; see also Melissa Lane, *Eco-Republic: What the Ancients Can Teach Us About Ethics, Virtue, and Sustainable Living* (Princeton: Princeton University Press, 2012: 66–69).

have effects extending beyond parties to a contract, some of which might harm others.³⁸ Even Ludwig von Mises accepted the state's role in "guaranteeing the protection of life, health, liberty, and private property"; even Friedrich Hayek had followed Pigou in granting the state a role in regulating the "smoke and noise of factories."³⁹ But if externalities were truly ubiquitous, they threatened to license a drastic extension of government and severe restrictions on market freedom. As complaints about the "smoke nuisance" intensified, Milton Friedman noted that "there is no transaction between individuals that does not affect third parties to some extent, however trivial, so there is literally no governmental intervention for which a case cannot be offered along these lines."⁴⁰ The externality, he worried, could therefore be "used to justify a completely unlimited extension of government."⁴¹

Bargaining defended: Ronald Coase and the social cost

As attention to the externality problem had grown, however, so had scrutiny of Pigou's theory. In 1960, the British economist Ronald Coase launched a major, direct critique of Pigou in his landmark article "The Problem of Social Cost."⁴² The paper would become a foundational text in the law and economics tradition, and among the most cited in all legal scholarship. Coase's critique drew on the "new" welfare economics: Pigou's utilitarianism, Coase argued, had led him to import a moral framework which informed his assessment of both the necessity and ends of state intervention. By stating as a matter of fact that certain private activities caused public injury—that when a factory's "smoky chimney" affected the surrounding air, for example, it constituted a clear

³⁸ Nozick's entire argument for a minimal state would ultimately rely on a complicated account of compensation for "boundary crossing"—in effect, a redescription of the problem of the externality. Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1979).

³⁹ Ludwig von Mises, *Liberalism: The Classic Tradition*, trans. Ralph Raico (Indianapolis: Liberty Fund, 2005 [1927]): 30, 32; Hayek, *The Road to Serfdom*, 40.

⁴⁰ Notably, his critique of government intervention was Friedman's most salient departure from Smith, then being revived as a proto-Chicago School thinker. Milton Friedman, "Adam Smith's Relevance for 1976," in *The Indispensable Milton Friedman: Essays on Politics and Economics*, ed. Lanny Ebenstein (Washington, D.C.: Regnery Publishing, 2012), 45–46; on this recovery of Smith see Glory M. Liu, *Adam Smith's America: How a Scottish Philosopher Became an Icon of American Capitalism* (Princeton: Princeton University Press, 2022).

⁴¹ For further discussion of "neighborhood effects" see Friedman, *Capitalism and Freedom*; Milton Friedman, *There's No Such Thing as a Free Lunch* (Chicago: Open Court, 1975); Milton Friedman and Rose D. Friedman, *Free to Choose: A Personal Statement* (New York: Harcourt Brace Jovanovich, 1980).

⁴² R. H. Coase, "The Problem of Social Cost," *The Journal of Law & Economics* 3 (1960): 1–44; see also Steven G. Medema, "Neither Misunderstood nor Ignored: The Early Reception of Coase's Wider Challenge to the Analysis of Externalities," *History of Economic Ideas* 22, no. 1 (2014): 111–32.

case of social harm caused by the factory, which should be rectified by government intervention to limit the smoke—Pigou had imbued the positive science of economics with normative evaluation.

Coase made three moves in response. First, he argued that economic activities are not unidirectional but “reciprocal”: their effects always go in two directions. The smoke from the factory chimney, for example, would only have harmful effects on health if people chose to live nearby: thus “both parties cause the damage.”⁴³ Conversely, to limit smoke, as Pigou had proposed, would impose a cost on the factory owner in the form of reduced production.⁴⁴ Why, Coase asked, should the factory have to accept the costs of reducing smoke for the benefit of the neighborhood? Why instead should nearby residents not pay the factory to reduce the smoke, or simply move elsewhere? Economists could not answer these questions, Coase argued, without imposing moral judgments inappropriate to a technical field. They could speak only to whether the value of clean air, assessed in economic terms, was greater or less than the value of the product that had generated the smoke. Second, following from this point, Coase argued that in highlighting the disparity between public welfare and private profit, Pigou had identified the wrong problem altogether. Only the “total social product,” computed by weighing the gains of preventing a given activity compared to those of allowing it to continue, was relevant.⁴⁵ The goal was not to eliminate smoke altogether: to allow *any* claim of harm to prevent a smoky factory from operating might make everyone worse off. Rather, the goal was to achieve the “optimum amount of smoke pollution,” defined not in terms of social welfare but as the “amount that will maximize the value of production,” as determined by negotiations amongst producers themselves.⁴⁶

Finally, the mere fact that some externalities were uncompensated was not in itself a sufficient argument for state intervention. State action came with transaction costs of its own, which might be more significant than those of either doing nothing at all or leaving the interested parties to work it out for themselves.⁴⁷ In instances where state action was warranted, moreover, the blunt and inefficient tools of taxation and regulation were not the only options.⁴⁸ Instead, Coase argued that “the right to do something which has a harmful effect (such as the creation of smoke, noise, smells, etc.) is also a factor of production”: thus the state should assign rights to these activities, as it did to

⁴³ Coase, “The Problem of Social Cost,” 13.

⁴⁴ Coase, 18, 42.

⁴⁵ Coase, 34.

⁴⁶ Coase, 42.

⁴⁷ Coase, 18, 41–42.

⁴⁸ Coase, 41.

other factors of production, and allow private individuals to work out the value of smokeless air for themselves.⁴⁹ Rights, in other words, could be allocated by markets, just like any other good. If a producer wanted to generate smoke, they could simply pay the person harmed for the privilege, or vice versa. Regardless of who initially owned the rights to pollute, Coase argued, they would be allocated in whatever way maximized the total value of production.⁵⁰

Markets and morals: comparing views

Coase's analysis was rapidly embraced as a response to the framework of "market failure": redescribed by Chicago School economist George Stigler as the "Coase Theorem," it would become the far-reaching basis for a new approach to externalities.⁵¹ Coase's was hardly the final word: externalities would become a central concept in the fields of environmental and ecological economics, which emerged entirely within the six decades since "The Problem of Social Cost," as well as in the vast literature on public and common pool goods.⁵² Yet the basic frameworks outlined by Pigou and Coase remain the dominant ones for thinking about the externality today. Pigou's analysis informs policies like the carbon tax and estimates of the social cost of carbon; Coase's underpins the likes of carbon markets and cap-and-trade policies. Despite important disagreements, discussed in depth below, they share most basic premises: both reflect broadly liberal views of the roles of state and market from the vantage point of neoclassical economics. They assume that markets should generally operate without state intervention, and the goal of intervention, where it

⁴⁹ Coase, 88.

⁵⁰ Assuming no transaction costs—a condition that Coase freely acknowledged was rarely met in practice. See Coase, "Notes on the Problem of Social Cost," 158.

⁵¹ The "Coase Theorem," per Stigler, holds that if private property rights were well-defined and transaction costs were zero, it does not matter who initially holds the rights in question. Rights, in other words, can be allocated by markets, just like any other good. See George J. Stigler, *The Theory of Price*, 3rd ed. (New York: Macmillan, 1966). On Coase's dislike for the theorem, see "Notes on the Problem of Social Cost"; see also Deirdre McCloskey, "The So-Called Coase Theorem," *Eastern Economic Journal* 24, no. 3 (1998): 367–71; Steven G. Medema, "A Case of Mistaken Identity: George Stigler, 'The Problem of Social Cost,' and the Coase Theorem," *European Journal of Law and Economics* 31, no. 1 (February 1, 2011): 11–38. On the significance of the Coase Theorem to neoliberalism, see Biebricher, *The Political Theory of Neoliberalism*.

⁵² See for example Herman E. Daly, *Steady-State Economics: The Economics of Biophysical Equilibrium and Moral Growth* (New York: W. H. Freeman, 1977); Herman E. Daly and Kenneth N. Townsend, eds. *Valuing the Earth: Economics, Ecology, Ethics* (Cambridge: MIT Press, 1993); Nicholas Georgescu-Roegen, *The Entropy Law and the Economic Process* (Cambridge: Harvard University Press, 1979); William D. Nordhaus, "World Dynamics: Measurement Without Data," *The Economic Journal* 83, no. 332 (1973): 1156–83; William D. Nordhaus and James Tobin, "Is Growth Obsolete?" *Economic Research: Retrospect and Prospect*, Vol. 5: Economic Growth (New York: National Bureau of Economic Research, 1972); Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press 1990).

does occur, is to restore market function, as against proposals that the state set targets for industry to meet or prohibit certain substances or processes outright.⁵³ They assume, too, that individuals are the basic unit of market action, and in turn, of economic analysis. Both, in other words, accept many the core principles of mainstream economic thought—neither was what we might now think of as an ecological or environmental economist—which makes it all the more striking that both wrote extensively about what we now tend to think of as environmental issues. Coase’s examples in particular are teeming with nature: a field overrun with rabbits, cattle that stray from a rancher’s field into a farmer’s, a train whose sparking engine causes nearby woods to catch fire, a polluted stream with sickly fish, a building blocking the wind that powers a windmill. Externalities are not limited to “environmental” cases—yet they seem to reveal something about the effects of human action in a material world, as I explore in more detail below.

Where Pigou and Coase differ most significantly is in their accounts of what markets ought to do and where they fit in the broader social order—a difference that reflects a broader transformation in the political dimensions of economic thought. Pigou’s attempt to merge utilitarian and marginalist thought echoed the eighteenth-century synthesis of commercial republican and market freedoms in its expectation that markets can and should realize the common good (now described in the guise of “social welfare”) and its conviction that unintended harms to public wellbeing could be collectively tallied and addressed by a public entity. Coase’s account, in turn, reflected the vision of markets that would become most prominent in the late twentieth century, which banishes the common good—by then suspiciously totalitarian—except insofar as it shakes out in competitive markets (“total value production” as Pareto efficient outcome). His insistence that social costs must be negotiated reflects a view of the market as a force for pluralism, allowing people to make their own choices about values.⁵⁴

It is perhaps not surprising that moral philosophers and political theorists have tended to find Pigou’s account more appealing. Though Pigou himself is rarely referenced outright (other than in perfunctory nods to “Pigovian” taxes), his influence is visible in frequent references to the “true costs” of pollution or “social costs of carbon”; even in the idea that pollution obviously does

⁵³ Both, then, are generally consistent with what Mark Budolfson has described as a “Default Libertarian” approach, i.e. not “command and control”: see Budolfson, “Market Failure, the Tragedy of the Commons, and Default Libertarianism in Contemporary Economics and Policy,” *The Oxford Handbook of Freedom* (Oxford: Oxford University Press, 2017).

⁵⁴ For the longer history of these ideas see MacGilvray, *The Invention of Market Freedom*.

constitute a “public harm.”⁵⁵ Coasean markets in pollution, by contrast, typically come in for the sharpest critiques of economism’s creep. Michael Sandel, for example, argues that paying for the right to pollute is troubling insofar as it suggests that there is nothing morally wrong with pollution—that it is “simply the cost of doing business, like wages, benefits, and rent.”⁵⁶ Rather than simply condemning the Coasean approach, however, I am interested in what it reveals. For Coase is a more perceptive analyst of the externality than Pigou. He is right that Pigou’s analysis relies on an unspoken and unjustified moral framework: to know that the market has failed to achieve optimal welfare, one must know what the optimal welfare is; to correct prices, a benevolent administrator (or moral philosopher) must know what they ought to be. Coase is right, too, that “social costs” are reciprocal and antagonistic—that one person’s harm is another’s benefit. And he is right to argue that harms like pollution are, effectively, factors of production, insofar as the transformation of some materials into new forms inevitably produces forms of excess matter. He is right, in other words, that Pigou and his followers take the meaning of social cost for granted and arbitrarily apply a normative standard to pollution—one that they typically do not apply to other kinds of economic goods. But it is not clear that such a stark distinction can be drawn: pollution, after all, is not *produced* not by the emergence of markets in pollution rights, but by markets in standard commodities like cars and televisions—goods that most moral critics seem to think are legitimately bought and sold. If we recognize that “environmental” goods and bads are continuous with other kinds, then, we have two options. One is to claim that market mechanisms are appropriately applied to environmental problems.⁵⁷ The other is to focus critique not on exceptions to the rule of the market, but on the rule itself.

This is what the rest of this paper does, in three parts. The first takes up a question that is largely missing from mainstream theories of externalities: it argues that by focusing on the rules of exchange alone, economists neglect the social relations of power in which capitalist markets are constitutively rather than contingently embedded. The second addresses the dynamics of agency

⁵⁵ John Rawls, for example, discusses instances of “public harms, as when industries sully and erode the natural environment” in explicitly Pigouvian terms in *A Theory of Justice* (Cambridge: Harvard University Press, 1971).

⁵⁶ Michael J. Sandel, “It’s Immoral to Buy the Right to Pollute,” *The New York Times*, December 15, 1997; see also Michael J. Sandel, *What Money Can’t Buy: The Moral Limits of Markets* (New York: Farrar, Straus and Giroux, 2012), 73–75; Robert Goodin, “Selling Environmental Indulgences,” *Kyklos* 47, no. 4 (1994): 573–596.

⁵⁷ Wilfred Beckerman and Joanna Pasek, “The Morality of Market Mechanisms to Control Pollution,” *World Economics* 4, no. 3 (July–September 2003); Simon Caney and Cameron Hepburn, “Carbon Trading: Unethical, Unjust and Ineffective?,” *Royal Institute of Philosophy Supplement* 69 (2011).

within markets, showing that markets *constitutively* detach intentions from consequences, at both the individual and collective level. The third considers what the ballooning significance of externalities tells us about action in a more-than-human world, arguing that the structural and social features of action sketched here are mediated by and reflected in matter itself.

II. Domination in three dimensions

Structural domination: social costs in class society

Most analyses of the externality treat “markets” in the abstract, imagining individuals who meet as formal equals and enter into voluntary agreements based on a rational assessment of their options. In markets in capitalist societies, however, people come to exchanges from structurally unequal positions of power. This is the central insight of a less well-known twentieth-century theorist of the externality: the German economist K.W. Kapp, an institutionalist informed by the Frankfurt School of critical theory. In *The Social Costs of Private Enterprise* (1950), Kapp described not the widespread affluence typically thought to characterize the postwar period, but an economy characterized by workplace injury, polluted air and water, depleted plant and animal resources, and mounting waste—all, he charged, costs of production paid not by private industry but by “society.”⁵⁸ Entire industries were only profitable, Kapp claimed, because they had managed “to shift a substantial part of these costs to other persons and the community at large.”⁵⁹ Cost-shifting was more pervasive even than exploitation, such that capitalism itself was “an economy of unpaid costs.”⁶⁰ For Kapp, this meant that social costs were a site of political conflict: echoing Karl Polanyi’s theory of the “double movement,” he argued that political history since the nineteenth century could be read as a “revolt of large masses of people... against the shifting of the social costs of production to third persons or to society.”⁶¹ Private enterprise pushed costs onto society, and society pushed back.

⁵⁸ Karl William Kapp, *The Social Costs of Private Enterprise* (Cambridge: Harvard University Press, 1950); on Kapp, see Sebastian Berger, *The Social Costs of Neoliberalism: Essays on the Economics of K. William Kapp* (Nottingham: Spokesman Books, 2017); Sebastian Berger, “K. William Kapp’s Social Theory of Social Costs,” *History of Political Economy* 47, no. S1 (December 1, 2015): 227–52.

⁵⁹ Kapp, 91.

⁶⁰ Kapp, 231, 233.

⁶¹ Kapp, 16. On the double movement see famously Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon Press, 2001 [1944]).

What is striking is that the moral economist Kapp agrees with Chicago School lodestar Coase on two key points: that pollution constitutes an unpaid factor of production, and that social costs are reciprocal, insofar as the cost for one person is often a benefit for another. Yet for Kapp, these points are the basis of his critique that industry profitability has come at society's expense, and that social costs are a site of struggle. This unexpected agreement presents a puzzle. If Kapp is right that many industries are profitable *because* they shift costs onto others, then treating the right to pollute as a factor of production which must be paid for, as Coase proposes, would seem to give society a tool in the struggle to shift costs back. If forced to pay their full costs, Kapp's argument suggests, many industries might be forced to drastically reorganize production or even cease it altogether; capitalism itself might collapse.⁶² If companies had to pay the IPCC's proposed carbon taxes, for example, ranging from \$135 to an astonishing \$5500 per ton, many would likely no longer be viable.⁶³ Coase, by contrast, argues that while the right to pollute should be treated as a property right, it doesn't matter who initially holds it.⁶⁴ The relevant parties, he claims, will simply negotiate an agreement that maximizes the total value of production, inclusive of any necessary compensation for harm. One of them, it would seem, has to be wrong.

Kapp's argument is vulnerable to the same critique that Coase had launched at Pigou, insofar as it operates on the premise that there is a "true cost" to pay, one which could capture the various *in natura* harms to human and nonhuman life. For Coase, by contrast, treating pollution as a factor of production means that there are no true costs—there are only the prices that the relevant parties negotiate. (The point of Pigovian taxes, moreover, is not that people will actually pay the full cost in perpetuity, but that the increased cost will drive a shift to or creation of alternatives—assuming that these exist.) On these grounds, Friedman would argue that societies should permit "only pollution that's worth what it costs, and not any pollution that isn't worth what it costs"—and that the only way to determine which pollution was "worth it" was to let individuals themselves decide. This, both Coase and Friedman thought, could happen even absent formal rights to pollute: people might

⁶² A similar idea underpins the ecosocialist James O'Connor's "second contradiction" thesis, which argues that environmental movements might impose costs on capital that will lead to economic crisis: see "Capitalism, Nature, Socialism: A Theoretical Introduction," *Capitalism Nature Socialism* 1, no. 1 (January 1, 1988): 11–38.

⁶³ Intergovernmental Panel on Climate Change, *Global Warming of 1.5°C*, Eds. V. Masson-Delmotte, P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield. (Geneva, 2018).

⁶⁴ Coase, "The Problem of Social Cost," 44.

choose to live near a smokey factory if rents were lower; countries entering into trade agreements could decide what level of pollution to allow. Japan, for example, could choose to produce steel and accept the ecological costs, while environmentalists in the United States could be happy with cleaner air and water: “If Japan chooses to subsidize the export of clean air to the United States,” Friedman asked, “why should we object?”⁶⁵ This particular example isn’t entirely applicable to climate change, of course, insofar as carbon emissions anywhere are a problem for people everywhere. But I want to focus on Friedman’s question: why *should* we object if some people choose to accept the costs associated with production in order to realize the benefits? After all, this is precisely the trade that most developing countries have made in the years since.

Let me pose the question more provocatively. What’s wrong with letting the lowest wage countries choose to accept a trade in toxic waste? If “underpopulated” African countries want to import “visibility impairing particulates” and export “pretty air” to the United States, why should we object? This, of course, is a rephrasing of Larry Summers’s notorious defense, in a 1991 World Bank memo, of the “impeccable” economic logic of “dumping a load of toxic waste” in low-wage countries, especially those in Africa.⁶⁶ Summers was widely castigated for his remarks. Yet the economic logic *is* impeccable on its own terms.⁶⁷ If we object to the statement—as I think we should—we need an answer to Friedman’s question. Debra Satz offers one: for Satz, markets in toxic waste are a “noxious market” characterized by severe power imbalances or weak agency, or which result in “extremely harmful outcomes,” either for individuals or society.⁶⁸ Satz is right that we should be troubled by the noxiousness of markets in toxic waste. But we should be especially troubled by how many markets turn out to be noxious. The severe inequality that concerns Satz is in fact the norm rather than the exception: it is the constitutive basis of class society itself.

This is what Kapp saw most clearly: that the struggle over the burden of social costs is better characterized in terms of struggle between classes with disparate power than as a market exchange between equal individuals. Producers responsible for social costs, he argued, had the upper hand. This was in part due to the nature of social costs, which were typically diffuse while benefits were concentrated. It was especially true in instances where the visibility of costs lagged behind the realization of benefits, sometimes taking years to emerge, as in harms to human health; or in

⁶⁵ Milton Friedman, “Free Trade and the Steel Industry,” (Lecture, Utah State University, 1978).

⁶⁶ Lawrence H. Summers, “Memo on ‘Dirty’ Industries” (World Bank, December 12, 1991).

⁶⁷ For an exemplary critique see David Pellow, *Resisting Global Toxics: Transnational Movements for Environmental Justice* (Cambridge: MIT Press, 2007).

⁶⁸ Satz, *Why Some Things Should Not Be for Sale*, 95–97.

instances in which the costs of private production simply appeared to be forces of nature. Economists tend to lump these kinds of challenges to collective action under the banner of transaction costs; the Coase theorem's assumption that these costs are nonexistent is one of its well-cannvassed shortcomings.⁶⁹ But the problem Kapp identified was not only the difficulty of organizing individuals to act together or the particularities of environmental effects: as he noted, private producers typically had financial and organizational resources outstripping those available to those who bore the brunt of social costs, and, in the absence of organized opposition, could impose them on others. To put it differently, although the factory owner and members of the neighborhood may be formally equal before the law, they stand in radically different positions of power.

Consider here G.A. Cohen's example of a town in which a chemical company opens a factory, offering jobs that pose serious health risks.⁷⁰ Do the factory's workers freely choose these jobs, he asks, or are they forced to take them? Those who argue the latter emphasize the structural conditions of labor under capitalism, in which those who lack property are forced to work for the owners of capital. Those arguing the former tend to make a version of Friedman's argument: if someone is willing to risk their health for a better wage, why should we stop them from doing so? If someone doesn't want to take a given job, they can look for another: they are not bound to any particular employer. The fact that they face dismal options or material hardships does not diminish their freedom to choose between them.⁷¹ Cohen concludes that the worker is at once freely choosing the dangerous job *and* severely restricted in options. The worker needs a wage to survive in the near term, even at the potential cost to life in the long-run; it may very well be that their best option is to take a health-threatening job, while others are able to "make money out of [his] relative lack of

⁶⁹ Steven Medema, "The Coase Theorem at Sixty," *Journal of Economic Literature*, 58, no. 4 (2020): 1045-1128; Randall 1975; Paul A. Samuelson, "Some Uneasiness with the Coase Theorem," *Japan and the World Economy* 7, no. 1 (1995); for a particularly creative solution see Christopher Stone, "Should Trees Having Standing?: Toward Legal Rights for Natural Objects," *Southern California Law Review* 45 (1972): 450-501.

⁷⁰ G.A. Cohen, "Are Workers Who Take Hazardous Jobs Forced to Take Hazardous Jobs?," in *History, Labour, and Freedom: Themes from Marx* (Oxford: Clarendon Press, 1988), 252; for a more basic statement of this argument, see G. A. Cohen, "The Structure of Proletarian Unfreedom," *Philosophy & Public Affairs* 12, no. 1 (1983): 3-33; G. A. Cohen, "Capitalism, Freedom, and the Proletariat," in *On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy* (Princeton: Princeton University Press, 2011), 147-65.

⁷¹ As Hayek puts it, "even if the threat of starvation to me and perhaps to my family impels me to accept a distasteful job at a very low wage... I am not coerced by him or by anybody else." Hayek, *Constitution of Liberty*, 13.

freedom.”⁷² This may be unjust, Cohen notes—but it is not necessarily illegitimate on capitalism’s terms, insofar as it is the result of a formally free exchange.

A critique, then, requires a challenge to those terms. Capitalism is foundationally structured by a division in social power. People who own nothing sell their labor-power to those who own the means of production; when the latter pay for labor, they purchase the power to direct the worker’s bodily capacities—to direct the worker’s literal *body*—for a given period of time. At the very root of capitalist production, then, is the expectation that some people will regularly submit to the will of others. The legitimacy of this authority rests only in the fact that workers have, at least ostensibly, freely chosen to enter into such an agreement. This presumption is what many critics have challenged.⁷³ Arbitrary power is at work, Alex Gourevitch argues, in the relationship between classes in which some people own while others work. Differences in resources, in these circumstances, do not only grant one a wider range of consumer choices, but the ability to compel others’ activity.⁷⁴ The unequal division of assets in capitalist societies, in other words, is not only a measure of injustice, but a mechanism of domination.⁷⁵ As Nicholas Vrousalis argues, “capital just is monetary title to control over the labour capacity of others.”⁷⁶ This imbalance in power also means that laborers are structurally disadvantaged in negotiations: the capitalist will lose money if the factory lays idle, but if the worker doesn’t work, they will starve. This means, put bluntly, that laborers often have to sell their labor for whatever price they can get. Similarly, someone who needs a wage to survive is likely to accept not only physically taxing jobs but physically unsafe ones, in which they are exposed to dangerous levels of smoke or toxins: they are likely, in other words, to accept a higher burden of social costs as a result of their structural position. In turn, their reliance on the market means that they will have to accept whatever kinds of social goods they can afford.

Most accounts of structural domination focus on the immediate relationship between labor and capital. But structural economic domination extends beyond the workplace. Capital is not only

⁷² Cohen, “Are Workers Who Take Hazardous Jobs Forced to Take Hazardous Jobs?,” 252. See also Nicholas Vrousalis, *Exploitation as Domination: What Makes Capitalism Unjust* (Cambridge: Cambridge University Press); A.J. Julius, “The Possibility of Exchange,” *Politics, Philosophy & Economics* 12, no.4 (2013): 361–374.

⁷³ Cf. Anderson, *Private Government*; Klein, “Fictitious Freedom”; Gourevitch, “Labor Republicanism”; Cicerchia, “Structural Domination.”

⁷⁴ See especially Klein, “Fictitious Freedom”; Gourevitch, “Labor Republicanism”; Gourevitch, *From Slavery to the Cooperative Commonwealth*; O’Shea, “Socialist Republicanism”; O’Shea, “Radical Republicanism.”

⁷⁵ Gourevitch, “Labor Republicanism,” 596. Pettit’s reading of the market, by contrast, explicitly assumes that “imbalances of property and power” do *not* generate domination within relations of exchange. Pettit, “Freedom in the Market,” 142.

⁷⁶ Vrousalis, *Exploitation as Domination*, 1.

power over others' labor per Vrousalis, but power over investment and hence purposive action more broadly: over what is produced and how. It is a title to direct not only other people's labor but to other factors of production, including the right to pollute. It is the power not only over the production of commodities, but over the production of environmental conditions, and increasingly, over the condition of the planet itself.

Let's now consider a twist on Cohen's question: are people who live next to factories with smoky chimneys *forced* to live there? They are legally free to live anywhere they can afford, after all; feudal title aside, no one is bound to a particular landlord. Most people, we can assume, would prefer live where they can breathe clean air. But pollution is matter which no one wants to buy; which instead, people pay to *avoid*. Those who cannot afford to avoid social costs are therefore likely to end up paying social costs *in natura*—in the form of asthma, say, or heart disease. Those who cannot afford to avoid the social costs of production are almost always those who are most dominated in the labor market; those whose only options are the lowest paying jobs and thus the lowest cost apartments. The wealthy live in leafy, upwind neighborhoods; the poor, next to incinerators and power plants. Although these particular examples pertain to localized environmental harms rather than the global phenomena of climate change, they are more closely connected than is sometimes suggested. The future harm caused by the accumulation of carbon molecules is paired with the immediate and localized impacts of fossil fuel production and use, from car exhaust to refinery emissions to black lung disease; and in any case, despite some notable exceptions—Malibu mansions, Miami real estate—climate vulnerability tends to follow existing patterns of social vulnerability.⁷⁷ We could just as easily pose a question about whether those who live in flood zones are forced to live there. To lack money, in these instances, is not only to lack the ability to realize one's aims in the material world, but to lack the ability to *refuse* the costs imposed by others.⁷⁸ Distributive inequality (itself stemming from social inequalities of power) thus conditions not only welfare but freedom.

In fact, it is far easier to impose social costs on other people in the course of production than it is to compel their labor. To use someone's body for labor typically requires consensual exchange in some form (however limited) because agency rests with the laborer: if you ask someone to work without paying, they can simply refuse. When using someone's body as a sink for smoke or

⁷⁷ EPA, "Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts" U.S. Environmental Protection Agency, EPA 2021. 430-R-21-003. www.epa.gov/cira/social-vulnerability-report

⁷⁸ Cohen, "Freedom and Money," 175.

particulate matter, by contrast, the agency lies with the polluter. Someone can dump toxins in the water or carbon in the air whether or not they have obtained consent to do so. Those living nearby may protest—but they cannot refuse to breathe polluted air in the way that they can refuse to work; they cannot refuse staggered effects like a heat wave or flash flood.⁷⁹ Coase suggests that the right to pollute, if recognized as an aspect of property, might be allocated to either the producer of pollution or its bearer. But in actual fact the right to pollute lies with the polluter by default, and by default it is available for free. To override this default, moreover, is extremely demanding—and demanding of state action in particular.⁸⁰ This feature is rooted in the material qualities of pollution, and would present a challenge for any form of social organization. But in a social order in which one group of people enjoys institutionalized structural advantage over another, it becomes a source of domination: a way that one group of people is able to profit by arbitrarily interfering with others.⁸¹

This structural domination would remain even if the right to pollute *were* formally treated as a factor of production, as Coase proposed. Say a state created a right to pollute and allocated it to residents of the neighborhood rather than the factory owner, such that the factory owner would have to negotiate with everyone living in the vicinity if he wanted to produce smoke. (Put differently, we might imagine granting everyone an alienable right to a clean environment.⁸²) If each person was paid the “true cost” of emissions on their future wellbeing, calculated in terms of lost wages, healthcare costs, shortened life span, and so on, the cost might well be staggering. (Although even in non-market forms of accounting and morally motivated evaluation, wages are often the metric according to which people’s relative worth is assessed, such that it is always impeccably logical to impose costs on the poor.⁸³) But in reality, people are likely to sell the right to pollute for

⁷⁹ See discussion in George Caffentzis, “The Work/Energy Crisis and the Apocalypse,” *Midnight Notes* No.3 (1980).

⁸⁰ See Donald MacKenzie, “Constructing Emissions Markets,” in *Material Markets: How Economic Agents Are Constructed* (Oxford: Oxford University Press, 2009), 137–76

⁸¹ G. A. Cohen, “Are Workers Who Take Hazardous Jobs Forced to Take Hazardous Jobs?,” in *History, Labour, and Freedom: Themes from Marx* (Oxford: Clarendon Press, 1988), 252; for the more basic argument, see G. A. Cohen, “The Structure of Proletarian Unfreedom,” *Philosophy & Public Affairs* 12, no. 1 (1983): 3–33; G. A. Cohen, “Capitalism, Freedom, and the Proletariat,” in *On the Currency of Egalitarian Justice, and Other Essays in Political Philosophy* (Princeton: Princeton University Press, 2011), 147–65.

⁸² Simon Caney, “Climate Change, Energy Rights, and Equality,” *The Ethics of Global Climate Change*; for an argument for the inalienable right to a healthy environment see Henry Shue, “Bequeathing Hazards: Security Rights and Property Rights of Future Humans,” in *Global Environmental Economics*, eds. Mohammed H. I. Dore and Timothy D. Mount (Malden, MA: Blackwell, 1999): 40–42.

⁸³ See Joan Martinez-Alier, “From political economy to political ecology,” in *Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen*, ed. K. Mayumi and J. M. Gowdy (Cheltenham UK: Edward Elgar 1999): 39.

far less than its “true cost.” They might do so in ignorance, not realizing the likely long-term effects; or they might know that there will be long run consequences but need money in the near term; or they might worry that the factory will move elsewhere—down the road, over the border, around the world. The reasons people might sell the right to pollute—in this instance, the right for someone else to impose the physical harms of production on one’s body—more cheaply than they “should,” in other words, are precisely the same as those which compel laborers to sell their labor cheaply: they are dependent on the market for their means of life, and they own nothing else. When people who have nothing to sell but their labor find that even that is not particularly valuable, they may decide that their competitive advantage lies in their willingness to accept particularly dangerous or dirty forms of production—precisely as Friedman and Summers suggest.⁸⁴

As Summers’s example well illustrates, moreover, structural economic domination is always articulated through other social relations: most notably, in these cases, those of race and nation.⁸⁵ In many instances, direct political domination and economic domination work in concert. When people are subjected to domination by the state, including forms of racial domination, they are often exposed to indirect domination by capital.⁸⁶ Waste facilities, for example, are most likely to be sited in communities which are unable to muster effective political resistance, which in turn are often those which are least represented within the state or even treated hostilely by it. In the United States, this means that waste facilities are located disproportionately in communities of color, as the environmental justice literature has exhaustively documented.⁸⁷ In other cases, people’s lack of formal political standing exposes them to extreme forms of economic domination, as when the dirtiest and most dangerous forms of work are performed by undocumented migrants who lack

⁸⁴ See Pellow, *Resisting Global Toxins*; see also Sara Holiday Nelson, “Neoliberal Environments: Crisis, Counterrevolution, and the Nature of Value.” PhD diss., University of Minnesota, 2017; Michael Denning, “Wageless Life,” *New Left Review*, no. 66 (December 1, 2010): 79–97.

⁸⁵ On articulation see Stuart Hall, “Race, Articulation, and Societies Structured in Dominance [1980]” in *Essential Essays*, Vol. 1, ed. David Morley (Durham: Duke University Press 2018); drawing on the notion of “articulation” in Louis Althusser, *For Marx* (London: Allan Lane, 1965).

⁸⁶ Laura Pulido, “Flint, Environmental Racism, and Racial Capitalism,” *Capitalism Nature Socialism* 27, no. 3 (July 2, 2016): 1–16; Laura Pulido, “Geographies and Race and Ethnicity II: Environmental Racism and Racial Capitalism,” *Progress in Human Geography* 41 (4): 524–533.

⁸⁷ For a few key works in a huge literature see David N. Pellow and Robert J. Brulle, *Power, Justice, and the Environment: A Critical Appraisal of the Environmental Justice Movement* (Cambridge: MIT Press, 2005); Liam Downey and Brian Hawkins, “Race, Income, and Environmental Inequality in the United States,” *Sociological Perspectives* 51, no. 4 (December 1, 2008): 759–81; Charles W. Mills, “Black Trash,” in *Faces of Environmental Racism: Confronting Issues of Global Justice*, ed. Laura Westra and Bill E. Lawson (New York: Rowman & Littlefield, 2001), 73–93. On race and residential patterns, see Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility* (New York: New York University Press, 2014).

claims to state protection.⁸⁸ In still others, the lingering effects of direct domination are reflected in contemporary structures of economic domination: formerly colonized countries bear a higher burden of pollution and are more likely to accept trades in toxic waste; they are more vulnerable to the effects of climate change.⁸⁹

This is not an exhaustive account. The central point is that the distributive dimensions of climate change are not only matters of injustice but of unfreedom. It is undeniable that there are stark and disturbing disparities in the forms of consumption which generate harmful forms of matter, of which carbon emissions—correlated almost perfectly to income—are only the most obvious example.⁹⁰ The goal of a more egalitarian distribution of both “goods” and “bads” is an eminently worthy one—even if it is not, I think, all we can hope for. But we should be concerned not with the unequal distribution of bads and goods, but with the constraint on *genuine* freedom of choice rooted in an inequality not only of resources but of power—an inequality that is not contingent but necessary to capitalism as a social order.

Freedom in the market? Abstract domination and the evacuation of agency

The account offered above may seem unsatisfying in certain respects—perhaps particularly so with respect to climate change. It is clear that certain industries, most notably but not exclusively those dealing in fossil fuels, bear outsized responsibility for climate change, especially insofar as they have intentionally delayed political action.⁹¹ But focusing exclusively on private industry and investment seems to ignore the fact that carbon emissions, as well as many other environmentally relevant externalities, are produced by many individual actions. If we are honest we must admit that everyone who consumes carbon-intensive goods—which is to say, nearly everyone presently living in the industrialized West—is complicit. This is the fundamental premise of a major philosophical body of work focused on responsibility for climate change, and on the particular challenges that this

⁸⁸ Laura Pulido, *Environmentalism and Economic Justice: Two Chicano Struggles in the Southwest* (Tucson: University of Arizona Press, 1996).

⁸⁹ Olúfẹ́ọ́mí O. Táíwò, *Reconsidering Reparations* (Oxford: Oxford University Press, 2022): 162-166.

⁹⁰ Thomas Wiedmann et al., “Scientists’ Warning on Affluence,” *Nature Communications* 11, no. 1 (June 19, 2020): 3107.

⁹¹ Naomi Oreskes and Erik Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury 2010); Henry Shue, “Reckless complicity: International banks and future climate,” forthcoming; Leah Cardamore Stokes, *Short-Circuiting Policy: Interest Groups and the Battle Over Clean Energy and Climate Policy in the American States* (Oxford: Oxford University Press 2020).

phenomenon poses to familiar accounts of moral agency.⁹² Climate change is caused by the actions of such a large and diffuse number of people that it any individual's contribution seems impossible to parse: agency is, in Stephen Gardiner's terms, "fragmented."⁹³ At the same time, each individual action is so small that it seems to escape responsibility. Indeed, climate change seems to reveal what Judith Lichtenberg describes as "new harms."⁹⁴ Once, Lichtenberg suggests, we could recognize the actions that caused injury and seek to avoid them, even if the moral questions they raised were complex; but when our most mundane activities turn out to contribute to severe harms, the fundamental calculus shifts. As Lichtenberg observes, "Not harming people turns out to be difficult and to require our undivided attention."⁹⁵ It requires reevaluation of our seemingly trivial choices: what we eat; where we live; how we get around; what we wear.

In light of this realization many philosophers have sought to link causal responsibility more clearly to moral responsibility, drawing lines between the activities which physically emit carbon, however minor the quantities, and their morally problematic effects on others, however distant. While any one person's contribution to climate change may be negligible to the point of imperceptible, many philosophers suggest, to ignore the aggregated effects of individual actions is to make what Parfit called "mistakes in moral mathematics"; we each have a duty to minimize actions that, when combined, add up to a serious harm. Getting serious about climate change means facing up to our own contributions to the problem.⁹⁶ Tellingly, in these discussions, action often amounts to consumption: iPhones, flights, steaks, SUVs. As Lichtenberg puts it bluntly, "Every bite we eat! Every purchase we make!"⁹⁷ This suggests that rather than constituting a source of "new harms," that climate change has simply shed new light on an existing class of harms: those already embedded

⁹² Elizabeth Cripps, *Climate Change and the Moral Agent: Individual Duties in an Interdependent World* (Oxford: Oxford University Press 2013); Vanderheiden, *Atmospheric Justice*; Julia Nefsky, "Collective Harm and the Inefficacy Problem," *Philosophy Compass* 14, no. 4 (2019); Dale Jamieson, "Climate Change, Responsibility and Justice," *Science and Engineering Ethics*, 16 (2010): 431–445; Dale Jamieson, "Ethics, Public Policy and Global Warming," *Science, Technology, and Human Values*, 17 (1992): 139–153; Stephen Gardiner, "Is no one responsible for global environmental tragedy? Climate change as a challenge to our ethical concepts" in *The Ethics of Global Climate Change*; See Douglas MacLean, "Climate Complicity and Individual Accountability," *The Monist* 102, no. 1 (2019): 1–21; Elisabeth Anker, *Ugly Freedoms* (Durham: Duke University Press, 2021).

⁹³ Gardiner, *A Perfect Moral Storm*.

⁹⁴ Judith Lichtenberg, "Negative Duties, Positive Duties, and the "New Harms"" *Ethics* 120, no. 3 (2010): 557–78

⁹⁵ *Ibid*, 558.

⁹⁶ Parfit, *Reasons and Persons*; see discussion in Vanderheiden, *Atmospheric Justice*. For arguments rooted in similar reasoning see Broome, *Climate Matters*; John Broome, "Against Denialism," *The Monist* 102, no. 1 (2019): 110–129.

⁹⁷ Lichtenberg, "Negative Duties," 560.

in our market choices, if only by exclusion from them. Yet although nearly all of the actions in question are mediated by the market, this crucial social institution goes almost entirely undiscussed. This is a remarkable omission. Why is it that moral agency has come to be located so significantly in consumer choices? And how might we understand responsibility differently if we attended more closely to the way markets structure the relationship between intent, action, and outcome?

We can begin by considering the major epistemic challenge that markets present. Theorists of moral agency and climate change often emphasize the difficulty of knowing how to act rightly: Lichtenberg, for example, suggests that to avoid being complicit in harms requires us to do immense amount of research about each and every one of the things we buy. This, however, is precisely what prices are designed to avoid. Market coordination is in fact premised on our ignorance: by their very nature, markets systematically make the negative externalities of our consumption decisions opaque to us. Prices are a thin kind of knowledge: they simply aggregate information about supply and demand, so that you don't need to know anything about where the lead in your pencil came from or the soil where your bananas grew. This means that for the most part, we have no way of knowing about externalities: about what kinds of noxious matter are generated as byproducts of the commodities we buy. We may be aware of certain high-profile examples—the carbon emissions associated with flying, for example, or the deforestation that results from expanding ranches for beef cattle—but there are countless others we don't take into account because we do not, cannot, and are not expected to know that they occur. It is not a problem, according to the theory of market freedom, that we don't know these things—to the contrary, it is a boon. For Hayek especially, it is precisely the limits of our knowledge that recommend the market: the “marvel” is that it coordinates individual actions on the basis of the minimal information contained in price.⁹⁸ In the conventional wisdom, externalities are presented as simply an epistemic problem: missing prices means missing information: once externalities are internalized, morally troubled consumers can return to their previous state of blissful ignorance. The problem is that the prospect of internalizing *all* externalities, or even having all the information necessary to do so, is fantastical: it relies on the idea that all costs can be identified and incorporated into prices; that the market can provide a 1:1 model of the world in its entirety, down to the last carbon molecule. But even bracketing this problem, the difficulty for those concerned with moral responsibility is that market choices, particularly those made under

⁹⁸ See Friedrich A. Hayek, “The Use of Knowledge in Society,” *American Economic Review* 35, no. 4 (1945): 519–30.

conditions of market dependence and competition, remain within a framework that fundamentally denies it.

Markets are said to coordinate action through consent rather than coercion. We each pursue our own self-interest, however we define it, making voluntary exchanges that we think will make us better off—and fortuitously, many have argued, this also tends to make everyone better off. Crucially, they aggregate individual actions *regardless* of intent. In other words, they detach intentions from consequences. Eric MacGilvray therefore argues that a fundamental principle of market freedom is *nonresponsibility*: it consists in the “ability to decide for oneself how to respond to the menu of choices that one faces without being publicly accountable for the consequences of those decisions, and thus with the ability to impose certain costs on other people without their consent.”⁹⁹ An avocado fad may send farmers’ fortunes rising and plummeting; our propensity to save rather than spend may plunge workers into unemployment—but no one can be said to be at fault. No one is directly responsible for the prices of goods; no one is directly responsible for the distribution of income. In this, externalities are a reflection of the general rule of the market rather than the exception to it: as MacGilvray argues, “*market prices themselves are externalities*,” insofar as they “impose costs and confer benefits on third parties in ways that no one—least of all the affected people themselves—can predict or control.”¹⁰⁰ This disconnect between intention and result has often been a point in markets’ favor. It is key to the optimistic view of unintended consequences reflected in ideas of the “invisible hand” and “spontaneous order.”¹⁰¹ Individual actors need not be enlightened or altruistic, wise or kind, these accounts proclaim; they need not consider the effects of their actions on others or anticipate the future. To the contrary, it is expected that they are not, and will not. The marvel is that these self-interested actions will nevertheless turn out for the best. Markets *are* supposed to allow us to make choices about what we as individuals value; and more than this, to *force* us to make choices about our real commitments when faced with material constraints.¹⁰² Yet if we are responsible for our own choices, we are not therefore responsible for the *effects* of those

⁹⁹ MacGilvray, *Liberal Freedom*, 119

¹⁰⁰ MacGilvray, *Liberal Freedom*, 103.

¹⁰¹ See Luban, “What Is Spontaneous Order?”; Medema, *The Hesitant Hand*.

¹⁰² Friedrich A. Hayek, *The Constitution of Liberty* (Chicago: University of Chicago Press, 1960): 137; Hayek, *Road to Serfdom*, 216-17; see discussion in MacGilvray, *The Invention of Market Freedom*, 172; Gourevitch and Robin, “Freedom Now.”

actions.¹⁰³ This, of course, diverges sharply from the view that we bear moral responsibility for the effects of our consumer purchases: market freedom expresses precisely the *opposite* idea.

In fact, this uncoupling of intention and result is precisely why commercial and neo-republicans have often found the market appealing as a counter to the arbitrary power of individuals.¹⁰⁴ Even where markets bring about detrimental outcomes, it is no one's intent and no one's fault that they do so. No single person is responsible for a rise in grain prices; thus no single person dominates another who cannot afford to buy bread. In this sense, Pettit suggests, the market is akin to a force of nature—and as such, it is not a force for domination.¹⁰⁵ Yet elevating a mechanism whose very purpose is to divorce action from effect threatens to abandon the possibility of common purpose and self-rule altogether. Indeed, as I have suggested, market thinkers have increasingly abandoned the possibility of common purpose and even individual self-determination. We do not all need to agree on a common good—but we do need to be able to work towards the common purpose of maintaining a habitable planet. As a rule, capitalist markets limit the scope of our choices and ability to act on our judgments—including our judgments about what would constitute appropriate, respectful, or reciprocal relationships to one another and to nonhuman nature. Making sense of these limits requires a more expansive understanding of domination, one capable of addressing the impersonal and indirect conditions of many—perhaps most—human relationships today. Capitalism's reliance on the market as the primary vehicle for social mediation subjects us to other people's choices and actions, even if indirectly and unintentionally; and this is why the domination specific to capitalism is *interpersonal* even if *impersonal*.¹⁰⁶ People do retain a degree of agency about what they choose to buy and sell. But those choices are deeply limited in their own right, and coordinated through a market that not only aggregates but compels countless individual decisions in ways that defy both individual and collective control. However much we agonize over our consumer choices, the market is not and cannot be a deliberative space or a site for the exercise of collective reason.

¹⁰³ Market freedom as nonresponsibility therefore exists in interesting tension with the political project of “responsibilization” as discussed by Wendy Brown, *Undoing the Demos*.

¹⁰⁴ Pettit, *Republicanism*, 205; Pettit, “Freedom in the Market.”

¹⁰⁵ Pettit “Freedom in the Market,” 135; for a critique see Steven Klein, “Fictitious Freedom: A Polanyian Critique of the Republican Revival,” *American Journal of Political Science* 61, no. 4 (October 2017): 852–863; Roberts, *Marx's Inferno*, 85n. I address this comparison in more detail in the following section.

¹⁰⁶ William Clare Roberts, “Reading Capital as Political Theory: On the Political Theory of the Value-Form,” in *Marx's Capital after 150 Years: Critique and Alternative to Capitalism*, ed. Marcello Musto (London: Routledge, 2019), 228.

Within standard economic theory, decisions in the market reflect our preferences—at least, the preferences of those who have the money to express them. Those who don't are largely invisible to the market; in this, the poor, future generations, and nonhuman species are in more or less the same boat. But the reality of markets is that even those who *do* have money cannot simply choose what value they attribute to different goods. I may well think clean air is worth quite a lot. But in a true market I cannot pay what I think something is worth, or even what I negotiate with another individual. I can only pay what the market—as the aggregation of millions of other buyers and sellers making transactions in competition with one another, under various constraints and forms of domination—decides it is worth. In the language of economics, we are all price takers, rather than price makers. Even when we have firm moral judgments about certain forms of consumption, we will often find it difficult to act on them in light of the pressure of price itself, making cheaper purchases even when we know that they are morally worse.¹⁰⁷ If a train ticket costs twice as much as a plane ticket, I will be tempted to buy the latter, even though I know it is more harmful.¹⁰⁸ While this pressure bears on everyone, it is particularly acute for those whose wages are closest to the costs of reproduction. Those who rely on wages must make those wages stretch as far as they will go—and because workers compete against one another for jobs, those who can cut the costs of their own reproduction will often find themselves at an advantage in the labor market, able to offer their labor power for a lower cost. If I am so committed to buying fair-trade goods that my cost of living is much higher than that of my peers, I will find myself at a disadvantage in the labor market. Some people, of course—likely many of those reading this paper—have enough disposable income to direct towards satisfying moral preferences: paying extra for cage-free eggs, say, or sustainably produced clothing. But these are not the conditions under which most people live today.

The point is not that all consumption is equally problematic or that the wrong life cannot be lived rightly.¹⁰⁹ We do retain a degree of moral agency even within severe constraints, and should take care with our choices—especially those of us who can do so without serious hardship. But the personal choices of a small group of elite consumers are hardly the core questions of politics. What is far more significant is the way that our actions are channeled and constrained in ways that are at once largely beyond our control and systematic in their effects. We should be acutely aware not only

¹⁰⁷ There are, of course, exceptions, but economics assumes that people are price-sensitive, and I think rightly so. If this weren't true, then market solutions wouldn't work and we needn't bother discussing them at all.

¹⁰⁸ William Clare Roberts calls this *akrasia*, the failure to act on one's own judgment. Roberts, *Marx's Inferno: The Political Theory of Capital* (Princeton: Princeton University Press, 2017): 56-70.

¹⁰⁹ *Pace* Theodor Adorno, *Minima Moralia: Reflections on a Damaged Life* (New York: Verso, 2005).

of the limits to our efforts to enact change as individuals, but of the ways that our individual choices *themselves* are limited; indeed, the very fact that nearly all of our action takes place in and through market purchases is itself a sign of such limits. We should be aware, too, of the ways that this kind of domination pertains to many forms of collective as well as individual action. Governments at levels ranging from the municipal to the national compete to attract private investment that can supply jobs and income for residents, and sources of tax revenue to fund their own operations. To do so they may relax environmental regulations, fast-track permitting processes, or even actively entice polluting industries.¹¹⁰ (This is all the more likely in industries whose most severe effects are often felt elsewhere, as is the case for many carbon-intensive industries.) The more dire the straits of the political community in question—perhaps they are suffering the aftermath of deindustrialization or deeply indebted following an externally imposed structural readjustment—the worse the options will be. In such instances, the owners of capital are positioned so as to make money from others’ dependence on their accumulated resources.

Even capitalists themselves, moreover, do not act freely according to their intentions. Hayek argued for markets against states on the basis that individual freedom “cannot be reconciled with the supremacy of one single purpose to which the whole society must be entirely and permanently subordinated.”¹¹¹ Markets do not themselves subordinate people to a single purpose—but capitalism does. Capital’s sole purpose is self-valorization: private investment happens only insofar as it is expected to be profitable, as determined in the field of a competitive market. A capitalist who fails to receive a return on her investments will not last long. Capitalists tend to dump waste as cheaply as possible, just as they seek to obtain labor as cheaply as possible, not because they are cruel or greedy, but because they themselves are dominated by the imperative to produce value and disciplined by competition. Of course, companies sometimes gesture to competitive pressures as an excuse for why they simply *cannot* improve conditions, and we should be wary of instances when these excuses are offered in bad faith. Yet structural pressures are real.¹¹² No corporation will pay to install unproductive pollution reduction technologies or reduce their carbon emissions if competitors do not.

¹¹⁰ See Pellow, *Resisting Global*; Pulido, “Geographies of Race and Ethnicity”; on the “race to the bottom” see Gourevitch, “Labor Republicanism”; Benjamin McKean, *Disorienting Neoliberalism: Global Justice and the Outer Limit of Freedom* (Oxford: Oxford University Press 2020).

¹¹¹ Hayek, *Road to Serfdom*, 211.

¹¹² See the discussion of this dynamic in Iris Marion Young, *Responsibility for Justice* (Oxford: Oxford University Press 2011).

Markets, then, constitutionally disaggregate intent and consequence, and frequently compel us to act against our own better judgment. Perhaps this disconnect between intentions and consequences would be inconsequential if we had faith in the auspicious view of their ability to produce happy ends. But environmental crises make clear that unintended consequences are just as likely to be perverse as they are salutary.

Connected through the soil: materially mediated domination

Warnings about the unintended consequences of environmental action are one of the most familiar refrains of twentieth-century environmentalism, often invoked as cautionary tales about human hubris or recklessness. But perhaps the definitive statement of perverse unintended environmental consequences is Garrett Hardin's famous concept of the "tragedy of the commons." Hardin gave the example of shepherds grazing a field: each shepherd, raising animals for sale, considers the utility they will gain by adding another animal to the herd against the damage to the field, and each time concludes that they stand to gain more than they will lose. The result is "ruin" for all: the grazing land is exhausted. This, Hardin suggests, is a tragedy resulting from rational action in a world plagued by scarcity. Hardin argues that pollution, too, results from a world of individuals making their own "calculations of utility," each deciding that the small cost they would bear from the effects of dumping waste into shared air or water is less than the cost of disposing of it otherwise. As long as we "behave only as independent, rational, free-enterprisers" acting in spaces which no one owns or controls, he insists, the tragedy of the commons will result.¹¹³ Hardin's account has been immensely influential, if also hugely controversial. The tragedy of the commons has been abstracted into the prisoner's dilemma, read as an ideal type of collective action problem, and interpreted as an argument for privatization. Since the atmosphere is a global commons, climate change itself has been frequently been read as a paradigmatic example of Hardin's tragedy.¹¹⁴

Although Hardin was himself was an ecologist, the tragedy of the commons is not an empirical example but a parable. The shepherds are rational actors motivated by utility; everyone calculates the costs and benefits to themselves as individuals in deciding what action to take. In response, Elinor Ostrom criticized Hardin's analysis by showing that commons have often been

¹¹³ Hardin, "Tragedy of the Commons," 1245.

¹¹⁴ Richard Posner and David Weisbach, *Climate Change Justice* (Princeton University Press 2010); for counterargument see Michaël Aklin and Matto Mildenberger, "Prisoners of the Wrong Dilemma: Why Distributive Conflict, Not Collective Action, Characterizes the Politics of Climate Change." Unpublished manuscript (2017).

managed by groups of people who set their own rules and monitor one another's actions.¹¹⁵ We might, in light of the analysis of structural power above, note another problem, one which also pertains to Ostrom's analysis: that the shepherds are suggested to be both formally and socially equal. Everyone, it appears, actually *is* making decisions for themselves; no one is simply employed to manage the sheep by a powerful community member or a multinational conglomerate. What I want to focus on here, however, is a different problem altogether. The unintended consequences that Hardin identifies are not unforeseen: the shepherds *know*, on some level, that overgrazing is a potential problem. Similarly, when a company builds a coal-powered steel mill, it knows that smoke will be a consequence, even if the intention to generate profits through the sale of steel. The shock of climate change comes in the fact that although it is caused by many of the same processes as local air pollution and other immediately observable negative externalities (smokey chimneys, exhaust pipes), the accumulation of carbon is not itself visible or immediately noticeable; it is not obviously a problem in itself. It is not, in other words, the kind of effect we could *anticipate* until recently. It points to the disorienting realization that our actions may have other invisible effects, many of which we may not understand until much later.

Ecology, a field of study concerned with collective action in its own right, emphasizes these kinds of unintended consequences. What the biologist Barry Commoner once called the first principle of ecology—that “everything is connected to everything else”—suggests that our actions inevitably affect others, both human and nonhuman, in ways we may not realize or intend.¹¹⁶ Every human action has the potential to disrupt or disturb distant people or processes, and contribute to harms that we do not recognize as such. Because of the lag between action and effect, often the result of the slow buildup of physical substances, we may not even *know* at the time which of our actions contribute to harm, as was the case for most emitters of carbon in the past. Within ecology, moreover, the properties of collective action are not only aggregate but emergent. What is relevant, in other words, is not the quantitative scale—how many carbon emissions are required to cross a tipping point—but qualitative change, wherein a certain set of actions, in combination, produce a novel entity with its own distinctive qualities. Seemingly minor actions may instigate feedback loops which drive amplification effects.

¹¹⁵ Ostrom, *Governing the Commons*. The kind of small-scale decision-making Ostrom endorses is not applicable to global problems, as she herself has noted.

¹¹⁶ Barry Commoner, *The Closing Circle: Nature, Man & Technology* (New York: Knopf, 1971).

This realization can quickly become vertiginous. It inflects the examinations of moral agency considered above, and the anxiety that we may be doing harm all the time; it informs analyses of what Rob Nixon calls a “slow violence” that is “dispersed across time and space.”¹¹⁷ For ecological economists, it suggests that the scope of the externality is practically infinite, precisely as Friedman had feared; from an ecological perspective, the assumption that a transaction could be contained to the individuals who agree to a contract is a delusion. Unintended consequences were pervasive; the prospect of internalizing all externalities would require a Copernican revolution in economics.¹¹⁸ For thinkers like Bruno Latour and Jane Bennett, it has called into question the role of human agency altogether. Political theory’s traditional emphasis on intent, Bennett argues, overstates the power of human beings while underestimating the autonomous effects of nonhuman agents which inevitably refract and distort our actions beyond our intent or control: a condition Bennett describes in terms of “distributive agency.” For Bennett, this means that individuals are “incapable of bearing full responsibility” for the effects of their actions.¹¹⁹ Although provocative, this is not as novel a prospect as it may sound: some version of this idea is present in ideas like Thomas Nagel’s “moral luck.”¹²⁰ Yet abandoning the “blame game” altogether, as Bennett proposes, too thoroughly abandons the prospect of holding people accountable for their actions.¹²¹ If traditional political theory threatens to overstate human intention and control, Bennett’s approach threatens to do the opposite: to make injustices into misfortunes; to render political decisions matters of chance. A genuinely political theory needs to retain an account of human action, even while recognizing that we act as embodied beings in a world not made by us alone.

Jean-Paul Sartre’s account of human agency in a material world in his *Critique of Dialectical Reason* offers useful resource for threading this needle. Human beings, he wrote, are “material organisms with material needs, we shall never find men who are not mediated by matter at the same time as they mediate different material regions.”¹²² Sartre advanced the concept of the “practico-

¹¹⁷ Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011): 2.

¹¹⁸ See Daly, *Steady-State Economics*, 88; Daly and Townsend, *Valuing the Earth*; Herman E. Daly, “On Economics as a Life Science,” *Journal of Political Economy* 76, no. 3 (1968): 392–406. On “ecological rationality” see John Dryzek, *Rational Ecology: Environment and Political Economy* (Oxford: B. Blackwell, 1987).

¹¹⁹ Bennett, *Vibrant Matter*, 37.

¹²⁰ Thomas Nagel, *Mortal Questions* (New York: Cambridge University Press 1979).

¹²¹ For critiques along these lines see Bonnie Washick and Elizabeth Wingrove, “Politics That Matter: Thinking About Power and Justice with the New Materialists,” *Contemporary Political Theory* 14, no. 1 (February 1, 2015): 63–79; Andreas Malm, *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso, 2018).

¹²² Sartre, *Critique of Dialectical Reason*, 71.

inert” to describe the way that freely undertaken human action is expressed in and through a material world whose material disposition and agency exceeds our intent or control, leaving lasting traces that both condition and constrain future action.¹²³ The practico-inert describes, in Fredric Jameson’s terms, “objects which are not mere things and agencies which are not exactly people either”; it is what Bennett might call a “heterogeneous assemblage” or Latour might describe in terms of a “hybrid.”¹²⁴ Rather than abandoning human agency, however, Sartre’s concept retains an account of human action at its core. Indeed, the perversely unintended consequences of human action are a major theme in Sartre’s *Critique*. Our action, once filtered through the world beyond, can “become other” to us, such that our actions thwart our original intentions: a phenomenon Sartre called “counterfinality.”¹²⁵ Although counterfinality is sometimes abstracted into a general pattern of social action, it is not produced by human interaction alone: crucially, it is emergent from distinctively human action in a material world, through which our action ripples in unpredictable and uncontrollable ways.¹²⁶ Sartre’s central illustration (in a book notably published the same year as Coase’s article on social cost) similarly selects an environmental example: in his case, Chinese peasants who systematically deforest a nearby mountains in order to grow crops.¹²⁷ The collective effect of their individual actions on the soil produces an emergent result which no one had intended: they inadvertently erode the soil and loess which the trees had kept in place, resulting in terrible and destructive floods.¹²⁸ This is counterfinality: the peasant “produces the floods which destroy him.”¹²⁹ Although Sartre’s example also bears clear resemblance to Hardin’s tragedy of the commons, it is *more* attentive to the particularities of the physical world. Distinctively human action is both conditioned and absorbed by the “physico-chemical” reality of the soil, which has its own particular character; the individual peasants are connected to one other through the medium of the soil itself. The floods, then, are neither an act of nature, nor simply the result of human action. Rather, they reflect “*both* the strictness of physical causation *and* the obstinate precision of human labor”: both

¹²³ David Detmer, *Freedom as a Value: A Critique of the Ethical Theory of Jean-Paul Sartre* (Chicago: Open Court, 1986), 50–51.

¹²⁴ Jameson, “Foreword,” *Critique of Dialectical Reason*, xxiii; see also Alberto Toscano, “Antiphysis/Antipraxis: Universal Exhaustion and the Tragedy of Materiality,” in *Materialism and the Critique of Energy*, ed. Brent Ryan Bellamy and Jeff Diamanti (Chicago: MCM Publishing, 2018), 489.

¹²⁵ Fredric Jameson, “Foreword,” *Critique of Dialectical Reason*.

¹²⁶ As in Elster, *Logic and Society*.

¹²⁷ Sartre, 1:163. As Alberto Toscano notes, he draws here on René Grousset’s *Histoire de la Chine* (1942).

¹²⁸ See Christopher Turner, “The Return of Stolen Praxis: Counter-Finality in Sartre’s *Critique of Dialectical Reason*,” *Sartre Studies International* 20, no. 1 (2014): 41; Fredric Jameson, “Foreword,” in *Critique of Dialectical Reason*, by Jean-Paul Sartre, ed. Jonathan Rée, trans. Alan Sheridan-Smith, vol. 1 (London: Verso, 2004).

¹²⁹ Sartre, *Critique of Dialectical Reason*, 1:164.

the character of purposive human action and the qualitative aspects of the more-than-human world.¹³⁰

Counterfinality, in other words, expresses an idea that has animated discussions of the Anthropocene, the age in which human activity has become the dominant force shaping the geological and biophysical activity of the planet Earth—even as that activity has begun to spun out of our control.¹³¹ If it usefully illustrates certain dynamics of human action in a more-than-human world, however, it does not offer an account of how human action is conditioned or compelled in any society in particular. Counterfinality is not a phenomenon specific to capitalism: all social orders must contend with a world they did not make and cannot control; and all kinds of action generate practico-inert entities, many of which thwart or defy the intent of human actors. Indeed, Sartre’s account hews most closely to Hardin’s in the idea that production consists of a series of individual actions motivated by scarcity and coordinated through the soil. But production under capitalism is not comparable to localized subsistence farming in crucial respects; climate change, too, is obviously the result of a far more complex and larger-scale phenomenon.¹³² To under our present circumstance, then, human action itself has to be read through more specific accounts of the social relations which generate, structure, and even compel our actions. In this context, the practico-inert can help us see how capital’s social relations are *instantiated* in the physical world itself, and how that transformation of the physical world conditions further action: how, in other words, *capitalist domination is always materially mediated*.

What I propose is not so much a departure from the traditional reading of domination as a relationship between human beings as a modification of it.¹³³ It is not an argument that nature itself dominates human beings; nor an account of the domination of nature.¹³⁴ Yet while theorists of domination frequently point to the likes of the weather as examples of constraints that do not

¹³⁰ See Toscano, “Antiphysis/Antipraxis”; on climate change see Robert Boncardo, “Sixty years of Sartre’s Critique: Revisiting *The Critique of Dialectical Reason* Today,” *Thesis Eleven* 161, no. 1 (2020): 108–123. For a counter-reading, see Turner, “The Return of Stolen Praxis.”

¹³¹ Dipesh Chakrabarty, “Climate and Capital: On Conjoined Histories,” *Critical Inquiry* 41 no. 1 (Autumn 2014); for the articulation of “inhuman nature,” see Nigel Clark, *Inhuman Nature: Sociable Life on a Dynamic Planet* (London: Sage, 2011), xiv.

¹³² Robert Boncardo, “Sixty years of Sartre’s Critique: Revisiting *The Critique of Dialectical Reason* Today,” *Thesis Eleven* 161, no. 1 (2020): 108–123.

¹³³ For the clearest statements of this position see Philip Pettit, “Freedom in the Market,” *Politics, Philosophy & Economics* 5, no. 2 (June 1, 2006): 136; Pettit, *Republicanism*, 117–119, 158–165; Philip Pettit, *A Theory of Freedom: From the Psychology to the Politics of Agency* (Oxford: Oxford University Press, 2001): 130.

¹³⁴ On the domination of nature see Krause, “Environmental Domination”; William Leiss, *The Domination of Nature* (New York: George Braziller, 1972).

dominate, it is increasingly clear that many ostensibly “physical” limitations to human freedom cannot simply be read as naturally occurring phenomena. Disability caused by exposure to toxic waste or asthma caused by pollution are clearly not only “natural limitations” but socially produced. (So too is the degree to which physical factors limit one’s ability to act freely.)¹³⁵ Increasingly, this is true even of ostensibly “natural forces” like climatic conditions and weather events: we can no longer view events in which a climate change-fueled hurricane destroys a village or drought ravages a farmer’s crop as simply blind forces of nature, “acts of God,” or *force majeure*. The effects of pollution or climate disasters may be unintentional—but they are not random, and nor are they simply effects of individual action. This calls for attention not only to the material bases of domination, as in classical republican concern for land ownership as a means of self-sufficiency, but material *expressions* of domination: the way that ostensibly “social” interhuman relations materialize in the “natural,” material world itself, which itself resists our discipline and control.

This is what counterfinality helps reveal: the way that social actions may concretize in the form of ostensibly natural phenomena. At issue here is not only the mistaken appearance of the social—i.e., that social relations appear to have the force of nature, as in accounts of social structures as a kind of “second nature.”¹³⁶ Rather, social relations are *actually instantiated* in the form of “forces of nature” which have been altered, and in some cases even produced outright, by social action, albeit always in ways that inevitably exceed human intention or control. To read these material effects typically described in terms of social costs as forms of *materially-mediated social domination* is to recognize these effects as the unintentional but no less systematic consequence of a particular organization of social relations expressed in and through the material world, one which consistently compels people to treat ecological effects as costless. Where the critique of market domination points to the ways that social relations escape social control, materially mediated social domination points to the ways that the material effects generated by these relations nevertheless retain their own alterity beyond our power to control them. If phenomena like climate change are generated by social relations, after all, they are never *only* social: the form such phenomena take will always reflect the material particularities, whether of the soil or the atmosphere.

¹³⁵ Discussed in detail by Sunaura Taylor, *Beasts of Burden* (New York: The New Press 2017).

¹³⁶ On various accounts of “second nature” see Crina Archer, Laura Ephraim and Lida Maxwell (eds.) *Second Nature: Rethinking the Natural Through Politics* (Bronx, NY: Fordham University Press): 2013.

This may seem a step too far. If almost everything we do has *some* kind of environmental consequence, the charge of domination may be so omnipresent as to be meaningless.¹³⁷ If anyone can dominate anyone else simply by taking a long-haul flight, then domination would seem so pervasive as to be impossible to eliminate. Similarly, if present generations dominate future ones simply as a result of the “very structure of time,” then domination is unavoidable.¹³⁸ As Sharon Krause argues, “true non-interference is not an option for any of us in the environmental domain”; the elimination of even the *possibility* of arbitrary interference is even less imaginable.¹³⁹ Rather than abandoning the concept altogether, however, this is precisely why it is crucial to address domination at a *structural* rather than individual level: the ways our actions are channeled, organized, and even compelled; the ways our relationships to one another are ordered; and how these relationships are both structured by and themselves shape the material world. It is crucial, in other words, to consider what Young calls the “institutional conditions which inhibit or prevent people from participating in determining their actions or the conditions of their actions”—as well as the way that the physical effects *generated* by institutional conditions inhibit or prevent people from living freely.¹⁴⁰ As the concept of the externality discloses despite itself, human action inevitably has consequences that ripple throughout the material world in unexpected ways. But the dimensions of market and structural domination I have addressed above means that capitalism constitutively produces them, that it produces them differentially, and that it is distinctively unsuited to address them.

Conclusion

Human relationships will always be mediated by the material world; our actions will always have unintended consequences. The intense difficulty of assessing responsibility in a world where our most mundane actions inevitably ripple outwards, with consequences which exceed our intent or control, will remain. So too will the spatial difficulties of acting within bounded communities when the effects may have planetary repercussions, and the temporal problem of actions and effects which span generations. What we tend to register as our own moral failings, I have argued, are better

¹³⁷ Even Pettit suggests that unintentional actions may affect others’ range of “undominated choice.” Philip Pettit *Republicanism: A Theory of Freedom and Government* (Oxford: Oxford University Press, 1997): 137.

¹³⁸ John Nolt, “Greenhouse Gas Emission and the Domination of Posterity,” *The Ethics of Global Climate Change* ed Denis G. Arnold (Cambridge: Cambridge University Press, 2011).

¹³⁹ Krause, “Environmental Domination”

¹⁴⁰ Iris Marion Young, *Justice and the Politics of Difference* (Princeton University Press, 1990): 38.

understood in relation to the broader social relations which constrain and direct our actions. The politics of social cost, considered collectively rather than individually, can help us think about how we might assess these kinds of questions. My argument is not that policies which rest on Pigovian or Coasean frameworks are, *ipso facto*, unacceptable or unworkable—although I am skeptical of the more expansive claims made about them. As I have suggested, Coase is right that there are no “true costs,” “correct prices,” or “objective values.” We should see questions of cost, price, and value as sites of politics—not in the sense of the consumer politics of individual purchasing decisions, or a Hayekian individual freedom, but in terms of collective judgments about what we value and what ends we want to achieve; and in terms of conflicts across radical power imbalances—as something more like wages to be struggled over than rates to be calculated. In other words, we should bring the problem of social cost into the realm of political economy and collective action rather than the realm of individual moral action or the technical calculation of “true costs,” whether by ecological economists or moral philosophers.

Domination is often thought of as a form of negative liberty by both its conceptual critics and defenders, and hence as a minimal standard. Yet genuine nondomination is, I think, a surprisingly demanding standard with respect to ecological challenges. It does not permit treating some communities of people and the places where they live as sacrifice zones or dumping grounds for others. But just as importantly, it does not prohibit any activity outright, even those with demonstrably harmful byproducts or effects. It simply allows us to take responsibility for these questions, and to act on their answers. Friedman and Coase are right that decisions about whether and which pollution is worth its costs should be actively made rather than decided from on high. My claim is simply that these decisions should be made collectively by all of us: by people treating one another as social equals. As Wendy Brown reminds us, freedom is not only paired with but *is* responsibility.¹⁴¹ When we blame ourselves for the destruction of the world, we act as if we were already free. I do not think that we are.

¹⁴¹ Wendy Brown, *Edgework: Critical Essays on Knowledge and Politics* (Princeton: Princeton University Press, 2005).