

# Conclusion: On Energopolitics

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**W**hy add energy to biopolitics? What conceptual openings does such a concatenation or expansion produce, both in how we think about energy and in the way we understand contemporary modes and models of power? And if there are conceptual openings produced in this encounter, is there anything that, in the process, is also confused or closed down?

Taken together, the articles in this special collection raise these questions and begin the difficult task of providing (at least provisional) answers to them. While they do so through the specific lens of the discipline of anthropology, the problem posed by energy cuts across the divisions of epistemology and social ontology into which the human sciences have been arranged. Energy has emerged as a problem, in part, because despite its now apparent importance and significance to almost everyone, it has *not* been typically factored into social theory—into broad understandings and conceptualizations of the operation and function of social systems and the subjects who inhabit them. One might have expected energy to play a key role, for example, in Karl Marx’s assessment of the operations of capitalism, which is dependent on energy like no socio-economic system before it.<sup>1</sup> But like others living in the early days of capitalism’s petroculture (the first volume of *Capital* appearing less than a decade after the 1859 discovery of oil in Titusville, Pennsylvania), Marx seemed to imagine energy as an input into the system that did not require explicit theorization. The now influential “Fragment on Machines” in *Grundrisse* (1993) outlined a world in which technological development would eventually reach such an

advanced state that labor would no longer be part of production. Instead of wasting one's life embroiled in factory labor, Marx imagined that over time "the human being comes to relate more as a watchman and regulator to the production process" (1993:705). Through the process of technological and scientific progress, we would approach a world in which labor time would be reduced to an absolute minimum, "which then corresponds to the artistic, scientific, etc. development of the individuals in the time set free, and with the means created, for all of them" (1993:706). This idea of a world without work remains one of the most appealing utopian political goals. But even if technology were to be so advanced as to operate all on its own, it would still require energy to function, and the energy sources on which we have come to depend are in increasingly short supply and generate enormous social and environmental problems as we use them up.<sup>2</sup> It is not only our understanding of capitalism that is impeded when we do not factor energy into social theory, but our imaginings of the character of social and political emancipation; both require us to better understand that we are subjects who depend on energy as never before.

Michel Foucault's theories of the social are the most rigorous and complete ones with which we are working at the present time. The influence of his ideas—especially his elaboration of major historical shifts in the character of power and his thoroughgoing description of the contemporary form that power has taken—has been felt across the disciplines. Foucault's concept of biopolitics has been especially important, and has come to constitute a near-universally accepted description of the principle mode through which states today organize and manage the life activity of their populations.<sup>3</sup> The concept of biopolitics emerges over the course of Foucault's late lectures at the Collège de France, in particular the three sets of lectures collected as "*Society Must Be Defended*" (1975-1976) (1997), *Security, Territory, Population* (1977-1978) (2004b), and *The Birth of Biopolitics* (1978-1979) (2004a). And while it would be wrong to suggest that at any point a single definition of the concept emerges out of these works, the principle idea of biopolitics is stated bluntly at the beginning of *Security*: "the set of mechanisms through which the basic biological features of the human species became the object of political strategy" (2004b:1). In describing the thrust of his intellectual practice, Foucault insists repeatedly that his objective "has been to create a history of the different modes by which, in our culture, human beings are made subjects" (2000:326). Biopolitics names our contemporary mode of power, one in

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which apparatuses of knowledge and a range of disciplinary practices are coordinated through the state to manage and normalize a new figure in the history of subjects: the population. What ties the contemporary state and the subject together are the various practices by which populations are governed for political ends—primarily (though not exclusively) the end of economic growth, which requires “healthy” populations if it is to be maximized, and whose maximization in turn confirms that the disciplinary processes and discourses of truth harnessed to give shape to populations are operating as they should be.<sup>4</sup>

Given his account of the practices and processes of governmentality employed by the state in enacting biopolitics, one might have expected Foucault to succeed where Marx failed: to make energy a crucial part of the story of the formation of the modern subject and the constitution of the contemporary state. But despite the range of mechanisms and apparatuses he describes in his late lectures—from the scalar expansion of disciplinary mechanisms to account for the population as a whole (“ratio of births to deaths, the rate of reproduction, the fertility of a population, and so on” [1997:243]) to his elaboration of the *dispositif* of security (the last feature of which he names as “the correlation between the technique of security and population as both subject and object of these mechanisms of security” [2004b:11])—none speak directly to energy as a primary concern of state power, *especially* as this is connected to the state and fate of populations. In his environmental history of the 20th century, *Something New Under the Sun* (2000), William McNeill identifies the capacities, technologies, and infrastructures enabled by access to new energy resources (primarily oil and gas) to be the single most significant factor in the four-fold expansion of population over the century and the 40-fold increase in industrial output. In 1800, it is estimated that the global population was approximately one billion people; as of 2010, it is closer to seven billion (United Nations 2013). The problem of the management of the population seems linked to energy in a direct way: it is access to ever-greater sources of energy that enables the expansion of industry *and* population. It would seem, then, that the genealogy of both the state and the subject are missing an important dimension if energy is not accounted for when outlining the processes and forces that have come to shape both.

The pieces in this special collection take up the difficult task of thinking about the role of energy in Foucault’s framing of biopower and biopolitics. In his introduction to this collection, Dominic Boyer provides an insightful

overview of the history of anthropology's ambivalent engagement with energy, which emerges in three discrete stages. It begins with the mid-century work of Leslie White (especially his influential "Energy and the Evolution of Culture" [1943]) and is followed by analyses in the 1970s and 1980s that examined the cultural and social consequences of energy, especially with respect to the relationship of indigenous communities to resource development. It is the third, most recent stage of research into energy that interests Boyer and which is exemplified in the articles included here—research that explores what he has termed "energopower" or "energopolitics."<sup>5</sup> Boyer (this issue) describes energopower as "as an alternative genealogy of modern power," one that fundamentally "*rethinks political power through the twin analytics of electricity and fuel.*" Energopower is not an alternative because it replaces biopower, but because it insists on the necessity of examining the essential function of energy in "the organization and dynamics of political forces across different scales." Boyer argues that when energy finds its way into anthropological discourse, it is as a result of moments of crisis in dominant energy regimes—in the case of White, the uncertainties of the nuclear era in the wake of Hiroshima and Nagasaki, while for the second generation of energy anthropologists, the OPEC oil crisis in 1973 and the reorganization of power in global energy production that accompanied the decline of the US as an oil superpower. "Biopower has always plugged in," Boyer reminds us. So why is it only now that the operations of biopower are being reconceptualized with energy in mind?

The contemporary crisis of energy is of a different kind and on a different scale than the configurations that prompted earlier anthropologists to attend to its social and cultural significance. It is not only shifts and changes in resource use that have brought renewed attention today to the role played by energy in shaping and structuring social life. Rather, what has entered into an older discourse around energy security and self-sufficiency is attention to a complex, still somewhat abstract figure whose relation to social processes is still being worked out. I am speaking, of course, of the environment, of that space in which the consequences of energy use play themselves out and which also constitutes the space of origin of all forms of energy. If Foucault's theories of the constitution of subjects and states, and of all the systems and mechanisms involved in producing and managing both, fail to take energy into account, this recognition of a theoretical limit emerges alongside environmental and ecological problems that challenge, in Boyer's words from the introduction, "not only the image of neoliberal

autology but also the image of a self-generating biopower.” Once energy is discovered as a conceptual gap, it is no simple matter to add it into the mix; we can continue to make use of Foucault’s ideas on the organization of subjects and power (how could we not? What better origin narrative do we have of the rationality and organizing principles of neoliberalism than *The Birth of Biopolitics?*), but as soon as we consider energy in relation to the environment, what we learn puts pressure on our understanding of biopower, and indeed, raises critical questions about the status and utility of the theories of political power we have broadly come to accept.

Anthropology is effective at interrogating large-scale hypotheses about social process by paying attention to the facts on the ground—by seeing how the abstraction of theory works itself out in situated social practices. Each of the articles in this special collection highlights the ways in which, when energy meets the environment, the “how” of biopolitics starts to break down, both as a way of conceptualizing power and in relation to real life practices. Douglas Rogers’ account of the emergence of an “energopolitical regime” in Russia’s Perm region lays bare the processes by which the company Lukoil-Perm has come to assume responsibility for “those classic state projects of molding communities, making citizens, searching for cultural pasts, and transforming subjects.” Rogers’ inquiry into the complex politics of the shift of the practices of citizen-subject formation from state to oil capitalists makes it clear that what is taking place is not simply an extreme version of the kind of neoliberal outsourcing of government responsibilities that has occurred around the world in the name of efficiency, small government, and—for the companies involved—profit. In Perm, the modes and mechanisms of governmentality that Foucault locates in the state are being passed over to a private company that now seems better able to articulate them. Surprisingly, and in a way that challenges some ideas we might hold about biopower, this company remains committed to the state project of producing the fully-formed subjects needed for late capitalist society, rather than limiting itself to the goal of short-term profit—a substitution of private for public unlike any we have seen in the neoliberal era.

Other articles highlight further dimensions of energopower. Gökçe Günel’s narrative of the failed attempt to create an energy currency to use in the world’s first zero carbon city—Abu Dhabi’s Masdar City—reveals the extraordinary difficulties of factoring energy into a system of exchange and representation that has both long disavowed its importance and been

unable to grasp the essential role it plays.<sup>6</sup> Cymene Howe's interrogation of the politics surrounding the installation of wind power parks across the Isthmus of Tehuantepec in Oaxaca, Mexico foregrounds the operation of what she calls "anthropocentric ecoauthority." State authority to engage in biopolitical projects to manage their populations is increasingly drawn into question in disputes between states and their subjects about projects with ecological and environmental consequences. The powerful ethical claims that can be made by competing actors—local inhabitants, NGOs, environmentalists, governments, and so on—on behalf of populations who have been re-imagined as a collective *species* exceeding the authority of any given state or government, can undercut state authority to identify and manage development and investment for the sake of growth. For Howe, the conjunction of energy and the environment both unnerves biopolitics and reaffirms it: struggles over ecoauthority challenge state power even as it makes "the basic biological features of the human species" (Foucault 2004b:1) the absolute horizon of the political. Through their account of the public drama of competing truths surrounding two British experiments in alternative energy, Catherine Alexander and Joshua Reno also exhibit the increasingly powerful function of appeals to ecoauthority, including the differential role played in struggles over energy and the environment by public and private companies, the state, and engineers and activists.

The singularity of the current moment of energy crisis and its significance for how we have conceptualized power is signaled most powerfully in these articles by the emergence of the Anthropocene. Popularized by geologist Paul Crutzen in a now famous 2002 essay in *Nature*, the Anthropocene is a concept with more political and ethical power than one with real analytic function in the physical sciences; those who argue over the specificity of its origins—that is, the precise moment when we passed over into it—miss the point.<sup>7</sup> The Anthropocene is itself a prominent example of the struggles being fought over ecoauthority: what more forceful rhetorical intervention into environmental debates and decision-making can one have but the scientific claim that the planetary and ecological impact of humanity has been so extensive and intensive as to have necessitated the pronouncement of a new geological age? And while its analytic function in the physical sciences might be limited, the Anthropocene does seem to have produced implications for the practices and theories of the human sciences. In an especially influential essay, Dipesh Chakrabarty has shown the way in which the Anthropocene demands a rethinking of history, necessitating an

account of globalization and global warming that “bring together intellectual formations that are somewhat in tension with each other: the planetary and the global; deep and recorded histories; species thinking and critiques of capital” (2009:213). The entire narrative of the Enlightenment that has underwritten much of historical thinking is one that is inseparable from the processes that have led to environmental crisis, and not only as a result of the kind of instrumental thinking that Horkheimer and Adorno (1971) identified in *Dialectic of Enlightenment* as an aspect of its “dark side,” but because, as Chakrabarty points out, “the mansion of modern freedoms stands on an ever-expanding base of fossil-fuel use. Most of our freedoms so far have been energy-intensive” (2009:208).

In a similar fashion, by shifting our narrative of the past two centuries or more such that we cannot but connect energy with the Enlightenment, the emergence of the Anthropocene forces us to reconsider how we conceptualize the operations of power. In the concluding pages of her article, Howe (this issue) suggests that “species” has replaced “population” as the site of the exercise of power—or even more provocatively, that the scale of the changes named by the Anthropocene demands “that the focus be extended to ‘all of life’s biodiversity.’” But when *population* becomes *species* becomes *life-as-a-whole*, the operations of biopolitics begin to falter and breakdown. Over the course of his late lectures, Foucault expresses surprise that what emerges in his account of the formation of the contemporary subject is a genealogy of the state, an actor that might not be sovereign in an older sense of the term, but which nevertheless organizes and concentrates power to an enormous degree. For those who imagine Foucault as a theorist of distributed, networked forms of power might, the emergence of the state as the key site of contemporary power is likely to come as a surprise.<sup>8</sup> Yet, biopower is a form of power associated with the modern state, to its imaginary of territory, to the practices of state racism described by Foucault in the concluding lecture of “*Society Must Be Defended*” (1997), and to its mode of managing populations through belonging and exclusion (biopower as re-imagined and re-described in Giorgio Agamben’s *Homo Sacer* [1998]). There is a reason why the response of states to environmental crisis had been so minimal, and why the most recent release of a comprehensive overview of climate change by the Intergovernmental Panel on Climate Change has received so much less attention than the political pantomime played out daily in the corridors of the US federal government. States can manage

populations, but not species, which exist outside of their political authority, physical capacities, and conceptual imaginaries; and if energy has been missing from the way in which biopower has been conceptualized, it is certainly the case that “all of life’s biodiversity” is just as fully absent from the historical emergence of state power and from the disciplinary mechanisms through which it has established and managed the principal subject of its power: populations.

What emerges from adding energy to biopolitics? For one thing, we cannot help but get a richer sense of the operations of biopolitics, both its historical development and present characteristics. The absence of energy from accounts of contemporary power and the formation of subjects is not because states have failed to think about energy as a component of biopolitics, but (put simply) because it has constituted a major blindspot in social and political theory—a gap to which many thinkers are now attending. Chakrabarty is far from the only writer to insist today on the missing link between freedom and fuel, philosophy and petroleum.<sup>9</sup> At least at one level, energopolitics constitutes a fuller account of biopolitics, one that addresses problems and limits in Foucault’s thought, and explores its significance for how one theorizes modern power. However, insofar as energy is today linked to environment out of necessity—every one of the articles in this special collection could be characterized as contributions to environmental studies—there is another, deeper insight generated by an energopolitics of the kind Boyer outlines. Though this insight is implicit throughout these articles, it is perhaps best exemplified by Hannah Knox’s contribution, which explores the ways in which the concept of climate change—and the broad politics surrounding it—generates a challenge to common conceptions of biopolitics. Knox (this issue) offers a fascinating account of a new concept of the population that develops out of the response to climate change. She writes:

Unlike analyses of society which emerged out of the discursive operations of social statistics that themselves constituted ‘the population’ as a meaningful site of governance, climate scientists appear to have produced the population *inadvertently* through their analysis of material processes...this is not a population constituted through a political project of statistical aggregation, but a rather “empty” conceptualization that appears as the only available interpretation of the causes of a particular material effect.

The effect of this “empty population” on political action with respect to the environment is significant. If population has constituted the major site at which states configure power/knowledge and is also the principal guarantor of their political authority, the “empty population” of environmental crisis constitutes “a new space of *not-knowing* with implications for the framing of practices of change governance” (Knox this issue, emphasis in original). I argued above that states are ill-equipped to address crisis on a planetary scale due to the way in which biopolitics is configured around the actions of states towards their populations. Knox identifies a slightly different problem, which is that the knowledge generated by those who might want to include climate change within practices of biopolitics is not of the right kind or type. Those of us who are concerned about the long-term repercussions of climate change on all the species inhabiting the planet expect that this epistemic (and so political) incapacity might put pressure on states to alter the way that they approach power/knowledge. And while these articles show that this *is* happening (if haltingly and in a very limited way), it may well be that the fundamental desire that underwrites environmentalism—a biopolitics organized in relation to species or to life itself, a hope for a system of political management that incorporates the environment and energy into its calculations of the health of the large groups of creatures under its charge—is, in the end, the wrong one, or one that sets itself up for disappointment because it fails to grasp the limits of biopolitics, and the need for a different form of political organization that *begins* at the level of the planetary rather than hoping to adapt existing state systems to it.

Energopolitics implies that we need a different form of politics—and one, of course, with a different aim and which measures its success or failure by different outcomes. By focusing on the processes by which subjects are produced, Foucault offers us an account of the historical development of power that dispenses with a notion of politics in which, at some point, we are fantastically emancipated from the social systems that have made us what we are—free from labor, for instance, as a happy result of technological progress. But if some aspects of Marxist thought—Foucault’s *bête noire* throughout the late lectures—too quickly assign the political to eschatological fate in the mode of the *Grundrisse* (1993), Foucault’s thought tends to avoid the hard slog of the political by focusing on the “how” of biopolitics rather than attending to its “why.” The employment of disciplinary power and the constitution of healthy populations have a clear end: the bottom line, the bringing into being a situation

of always more, more, more. It is a bottom line of perpetual growth and expansion that is not only unsustainable, but ferociously destructive for all life. By showing us how deeply the twin problems of energy and environment unsettle the “why” of contemporary power as a result of their challenges to its “how,” these articles not only contribute to a redefinition of the analytics of biopower, but also offer insight into that most difficult of political projects: the production of new modes of power, the conceptualization of new ways of making subjects, which can be the only hope for this planet we collectively inhabit. ■

**Endnotes:**

<sup>1</sup>In an analysis intended to draw attention to the role of energy inputs into economic growth, Edward Renshaw (1963) had, a half century ago, already started to draw attention to the importance of energy inputs into the operations of capital. Renshaw points out that “animals contributed 52.4 per cent of total work output in the United States in 1850; human workers, 12.6 per cent; wind, water, and fuel wood, 27.8 per cent; and fossil fuels, 6.8 per cent. In 1950, work animals are estimated to have contributed only 0.7 per cent of total work output; human workers, 0.9 per cent; wind, water, and fuel wood, 7.8 per cent; and fossil fuels, 90.8 per cent” (1963:284).

<sup>2</sup>For Gerald Raunig, “In post-fordism...the general intellect no longer presents itself only in the knowledge contained and enclosed in the system of technical machines, but rather in the immeasurable and boundless cooperation of cognitive workers” (2009:115). Even cognitive workers require energy. For a thorough analysis of the function of technology in left politics in the post-industrial era, see MacLellan (2013).

<sup>3</sup>Though it takes different forms as it moves through new articulations, Foucault’s descriptions of biopower have been important to (to offer but a few examples) Michael Hardt and Antonio Negri (2000) in their explorations of the “multitude,” to the on-going work on Judith Butler (2004) (including her arguments that state power has changed post-9/11), and, of course, to Giorgio Agamben’s (1998) exploration of “homo sacer” (Agamben 1998, Butler 2004, Hardt and Negri 2000). See, too, Thomas Lemke’s (2011) productive account of the shifts that the concept of biopower takes in the wake of Foucault’s work.

<sup>4</sup>The fundamental connection between the state and the subject is governmentality. Foucault writes:

By this word “governmentality” I mean three things. First, by “governmentality” I understand the ensemble formed by institutions, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit very complex, power that has the population as its target, political economy as its essential technical instrument. Second by “governmentality” I understand the tendency, the line of forces, that for a long time, and throughout the West...has led to the development of a series of specific governmental apparatuses (*appareils*) on the one hand, [and, on the other] to the development of a series of knowledges (*savoirs*). Finally, by “governmentality” I think we should understand the process, or rather, the result of the process by which the state of justice of the Middle Ages became the administrative state in the fifteenth and sixteenth centuries and was gradually “governmentalized.” (2004b:108-109)

<sup>5</sup>Boyer’s first iteration of the concept of “energopolitics” comes in “Energopolitics and the Anthropology of Energy” (2011). There he describes energopolitics as “power over (and through) energy,” which he proposes as

...an alternative genealogy of modern power and modern statecraft to the much-analyzed phenomenon of “biopolitics”—power over life and population. Biopolitical analysis is necessary, but not sufficient to understand the complex operation of modern states and modern power that have always sought to control and capitalize on the transformational power of energy...The point here is not to promote naïve materialism but rather to argue that power over energy has been the companion and collaborator of modern power over life and population from the beginning. (2011:5)

<sup>6</sup>In part, this may have to do with the fact that for much of the history of capital, energy had no impact on economic calculations. Economist Jeff Rubin (2012) has recently argued that the unprecedentedly high price of oil over the past decade is the primary reason why economies around the world have found it difficult to recover from the 2008 crash. While the current price of around \$100 USD per barrel is well below its recent peak of \$147 USD in July 2008, it is still exponentially higher than the average \$2 per barrel at which oil was priced during capital's massive expansionary phase from the 1920s to the 1970s—a virtually free form of energy with an extraordinarily high ratio of energy returned on energy invested.

<sup>7</sup>Take, for example, the argument that “The Anthropocene, on current evidence, seems to show global change consistent with the suggestion that an epoch-scale boundary has been crossed within the last two centuries” (Zalasiewicz et al. 2011:835). The identification of the moment in time when we made the geological shift into the Anthropocene depends heavily on the identification of what constitutes “epoch-scale”; it is also unclear whether the specification of the moment of the arrival of the Anthropocene produces any analytic changes or new insights into *geological* developments of the kind that one expects to emerge from arguments over periodization. See Zalasiewicz et al. (2011).

Crutzen has also been involved in efforts to further specify the emergence of the Anthropocene, identifying three distinct stages in its arrival; stage one begins in 1800 with the arrival of the Industrial Revolution. See Steffen, Crutzen, and McNeill (2007).

<sup>8</sup>Foucault's writing often encourages such a reading. In his effort to destabilize accepted ideas that power rests with a sovereign who rules through prohibition, and a figuration of political action based around the limits or openings generated through ideology, he often insists on the need to think of power as multiple and as moving through a network. As one of many such instances, consider his comments in “Two Lectures” (1980), which constitute something like a set of methodological imperatives for the work he carries out in the late lectures. Foucault writes:

In other words, rather than ask ourselves how the sovereign appears to us in his lofty isolation, we should try to discover how it is that subjects are gradually, progressively, really and materially constituted through a multiplicity of organisms, forces, energies, materials, desires, thoughts, etc. We should try to grasp subjection in its material instance as a constitution of subjects. (1980:97)

And again: “Power must by analysed as something which circulates, or rather as something which only functions in the form of a chain” (1980:98).

<sup>9</sup>Take, for example, Matthew Huber's comments in *Lifeblood*:

If the textbook definition of energy is the ability to do work, I pose a different question: can energy do political work? What if the most problematic relation to oil is the way it powers forms of social life that allows individuals to imagine themselves as severed from society and public life? Oil is a powerful force not only because of the material geographies of mobility it makes possible but also because its combustion often accompanies deeply felt visions of freedom and individualism. (2013:xi)

Timothy Mitchell is even more direct in his assessment: “Fossil fuels helped create both the possibility of modern democracy and its limits” (2011:1).

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#### **Foreign Language Translations:**

Conclusion: On Energopolitics

Conclusão: Sobre Energopolítica

结论: 论 "能源政治"

Заключение: Об энергополитике

الخلاصة: عن سياسات شركات الطاقة