

QUITTING (THE) HABIT: FOSSIL FUELS, GOVERNMENTALITY AND THE POLITICS OF ENERGY DEPENDENCY

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Abstract: This paper investigates habit in relation to fossil-fuel dependency. Habit names sets of actions and practices that are deeply codified into daily life, including practices connected to the use of large amounts of energy. Developing an understanding of energy habits appears to constitute a possible site of intervention into the ongoing use of fossil fuels. I argue that by tending to focus on individual energy practices, habit makes it difficult to raise larger, systemic questions related to energy use. Indeed, more critical explorations of habit, such as practice theory or via Bourdieu's notion of *habitus*, emphasise the need to attend to system more than specific energy habits. Investigating habit in relation to energy does, however, reveal some of the current limits and problems involved in changing fossil-fuel dependency on the part of many states. The paper turns to an investigation of the operations of governmentality in relation to energy to show the multiple ways in which the contemporary configuration of state power makes it unable to fully attend to fossil-fuel dependency. Making small changes to energy use via changes to energy habit never results in the system change required. While habit can thus be a useful analytic tool in understanding state power in relation to energy use, the paper argues that it is not a mechanism through which one might fundamentally change current configurations of energy dependency.

Keywords: dependency, energy, energy transition, fossil fuels, Michel Foucault, governmentality, habit, *habitus*, practice theory

The language of dependency has often been used to characterise the use of fossil fuels.¹ Despite the abundant availability of greener forms of energy, and despite the ability to access significant levels of this energy using existing technology, the use of fossil fuels has continued to grow in most parts of the world, including countries that already consume high levels of petrocarbons.² 'Dependency' is intended to explain the lack of movement on fossil-fuel use, providing a rationale or motive for what can only be described as a frustrating state of affairs given the existential threat generated by the continuing use of oil, gas and coal. Gerry Canavan has described this energy dependency as akin to more traditional forms of substance dependence, such as drugs or alcohol. As Canavan shows, mapping the actions of a fossil fuelled world

1. See Associated Press, 'Fossil Fuel Dependence poses "direct existential threat", warns UN chief', 11 September 2018, <https://www.theguardian.com/environment/2018/sep/11/fossil-fuel-dependence-poses-direct-existential-threat-warns-un-chief>; Peter Hitchcock, 'Oil in an American Imaginary', *New Formations*, 69, 4, 2010, pp81-97; Salma Monani, 'Energizing Environmental Activism? Environmental Justice', *Extreme Oil: The Wilderness and Oil on Ice*, *Environmental Communication*, 2, 1, 2008, pp197-227; Jean-François Mouhot, 'Past Connections and Present Similarities in Slave Ownership and Fossil Fuel Usage', *Climatic Change*, 105, 2011, pp329-55.

2. See EIA, *International Energy Outlook 2018*, <http://www.eia.gov/ieo>; International Energy Agency, *World Energy Outlook 2018*, <https://www.iea.org/weo2018/>; Mark Z. Jacobson and Mark A. Delucchi, 'Providing all global energy with wind, water, and solar power, Part I: Technologies, energy resources, quantities and areas of infrastructure, and materials', *Energy Policy*, 39, 2011, pp1154-69.

3. Gerry Canavan, 'Addiction', Imre Szeman, Jennifer Wenzel and Patricia Yaeger (eds), *Fueling Culture: 101 Words on Energy and Environment*, New York, Fordham University Press, 2017, pp15-17. (Hereafter *Fueling culture*).

4. For an overview, see Riley E. Dunlap and Robert J. Brulle, 'Introduction', Dunlap and Brulle (eds), *Climate Change and Society: Sociological Perspectives*, Oxford, Oxford University Press, 2015, pp3-31; Harold Wilhite, *The Political Economy of Low Carbon Transformation*, New York, Routledge, 2016.

5. See Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979*, Graham Burchell (trans.), New York, Picador, 2010; Thomas Lemke, *Biopolitics: An Advanced Introduction*, Eric Ferick Trump (trans.), New York, New York University Press, 2011.

6. Loren Lutzenhiser, 'Social and Behavioral Aspects of Energy Use', *Annual Review of Energy and the Environment*, 18, 1993, p262. (Hereafter *Aspects of Energy Use*).

7. See Russell Hitchings, 'Researching air-condition addiction and ways of puncturing practice: professional office

on to the parameters outlined in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) highlights a remarkable similarity between substance abuse and fossil-fuel use.³ The last of the seven criteria for substance abuse in the DSM-IV tells us that a key sign of dependency is that 'substance use is continued despite knowledge of having a persistent physical or psychological problem that is likely to have been caused or exacerbated by the substance' (*Fueling Culture*, p4). It seems an open-and-shut case. Fossil-fuel users are like heroin users, dependent on a substance that they know is killing them, but nevertheless unable to stop using it due to the pleasures it affords.

Might an analysis of energy *habit* offer a way of understanding the specific character of fossil-fuel dependency and the nature of the change it demands, as well as potential ways to deal with this dependency? Habit involves sets of actions and practices that have become deeply embedded in daily life. In habit, the social and the individual, the sociological and psychological come together in a manner that makes it a potentially valuable site for understanding the continued damaging use of fossil fuels. It also presents an intriguing site for possible interventions into environmentally damaging practices through the alteration or elimination of existing habits. Researchers have now engaged in myriad studies of the growing awareness of publics about the seriousness of climate change. One of the great frustrations of researchers is that such awareness seldom translates into action at the scale or with the intensity demanded by planetary environmental threats. Habit offers a solution to this frustration – or seems to do so.

Habit has been conceptualised and investigated within a wide range of fields, including behavioural studies, social psychology and, notably, consumer studies.⁴ It is one of the places researchers turn to in order to explain gaps in processes of change, such as the space between knowledge (i.e., knowing about climate change) and action (i.e., doing something about it). The intensive study of habit in relation to the demands of energy transition and environmental change may be well-intentioned. It raises the question, however, of precisely what is being identified as habit, by whom and to what ends. Might there be something specific to fossil-fuel dependency that makes habit the wrong concept through which to try to undo climate change?

My argument will be that, despite its apparent promise as a site of intervention on energy and environment, a hoped-for outcome that has been pursued by both researchers and governments alike, when it comes to the politics of energy transition, habit conceals as much as it reveals: it tends to evade the larger, more challenging structural and political interventions that need to take place to address fossil-fuel dependency. This paper will assess habit and energy by first exploring the terrain that exists between academic studies of habit and Pierre Bourdieu's notion of *habitus*, a concept the sociologist developed to name a deeper and systemic coding of mental and physical practices into the experience of social life. I will then problematise

habit as an element of governmentality – the name given by Michel Foucault to the set of techniques through which governments control and manage their populations.⁵ If typical uses of habit turn out to limit (rather than enhance) responses to climate change, thinking about governmentality via habit helps to expose some of the key operations of power in relation to practices of energy use. Habit does not get us to where we need to be when it comes to the use of fossil fuels and transitions to other forms of energy. It doesn't do so whether habit is understood as how individuals act of their own accord or what governments do in shaping how their subjects act. If in different ways, neither form of habit manages to produce the environmental system change each hopes to make possible. Understanding precisely why this is the case tells us a great deal about where our efforts might be better focused, and provides an opening to different ways of thinking about our ongoing dependency on fossil fuels.

HABIT, PRACTICE, HABITUS

Providing an overview of studies of habit – even if just limiting the scope to studies of energy habit – can be a daunting enterprise. In his 1993 survey of 'Social and Behavioural Aspects of Energy Use', Loren Lutzenhiser reports that 'the role of habit in energy use has received little attention from energy researchers, since persons in modern cultures are expected to know consciously what they are doing.'⁶ In the intervening two-and-a-half decades, however, analyses of the intersection of habit and energy have proliferated, with studies attending to a range of topics from patterns of air-conditioning use by office workers to the distinct ways of spatial knowing linked to different forms of mobility (e.g., cars, bicycles, walking) and their significance for policy about energy use.⁷ Lutzenhiser makes a distinction between unconscious and conscious habit to draw attention to the unnoticed quality of most daily energy-related actions, which can 'hardly be otherwise if actors are to competently attend to longer-term goals, upcoming tasks and higher cognitive functions' (*Aspects of Energy Use*, p261). In more recent studies, a similar distinction has been drawn between routines and habits – repetitive, unreflective acts as opposed to actions that are both normative and shaped by socio-cultural practices and processes.⁸ Despite analytic distinctions of this kind, there remains a wide range of views on just what constitutes habit, in part due to the interest in habit that exists across a number of distinct fields.⁹ In every study and every field, however, what is certain is that habit is viewed as both problem and possibility – problem, insofar as existing habits are of the wrong kind or have a negative outcome; possibility, because one habit can be transformed into another, better habit, whose repeated practice might in turn have a different, better outcome.

With respect to energy, the primary problem and sense of possibility are obvious enough. At present, the presumption is made within most disciplinary

workers and the decision to go outside', *Environment and Planning A*, 43, 2011, pp2838-56; Marlyne Sahakian, 'Cooling Histories, Habits and Variations', Chapter 3 of *Keeping Cool in Southeast Asia: Energy Consumption and Urban Air-Conditioning*, New York, Palgrave Macmillan, 2014, pp61-89; Denver V. Nixon, 'A sense of momentum: mobility practices and dis/embodied landscapes of energy use', *Environment and Planning A* 44, 2012, pp1661-78.

8. For an overview, see Karen Ehrhardt-Martinez and Juliet B. Schor with Wokje Abrahamse, Alison Hope Alkon, Jonn Axsen, Keith Brown, Rachael L. Shwom, Dale Southerton and Harold Wilhite, 'Consumption and Climate Change', Riley E. Dunlap and Robert J. Brulle (eds), *Climate Change and Society: Sociological Perspectives*, Oxford, Oxford University Press, 2015, pp94-126. See also Dale Southern, 'Habits, routines and temporalities of consumption: From individual behaviours to the reproduction of everyday practices', *Time & Society*, 22, 3, 2010, pp335-355.

9. See Alan Warde and Dale Southern, 'Introduction', Warde and Southern (eds), *COLLEGIUM: Studies across Disciplines in the Humanities*

and *Social Sciences*, Volume 12, Helsinki, Helsinki Collegium for Advanced Studies, 2012, pp6-9.

10. The exceptions to this tendency are considerations of energy ethics and justice, which point out that the majority of the earth's inhabitants have to date used *too little* energy given its importance for social development. See Mette High and Jessica Smith, *Energy and Ethics*, Hoboken, Wiley-Blackwell, 2019; Smith and High, 'Exploring the Anthropology of Energy: Ethnography, Energy and Ethics', *Energy Research and Social Science*, 30, 2017, pp1-6. See also Matthew Huber, 'Energized Antagonisms: Thinking Beyond "Energy Culture"', Imre Szeman and Jeff Diamanti (eds), *Energy Culture: Art and Theory on Oil and Beyond*, Morgantown, West Virginia University Press, 2019, pp233-45.

11. James Pierce, Diane J. Schiano and Eric Paulos, 'Home, Habits, and Energy: Examining Domestic Interactions and Energy Consumption', *Proceedings of the 28th International Conference on Human Factors in Computing Systems*, 2010, pp1985-94.

12. Thomas Dietz, Paul C. Stern and Elke U. Weber, 'Reducing Carbon-Based Energy

studies of energy that consumers use too much of it through the habits that structure their lives; a change in habit promises to reduce the amount or kind of energy that consumers use, with a corresponding benefit to the environment.¹⁰ The energy that is of most concern is fossil fuel. The wager made by studies of energy habit is that solutions to global warming can be generated through interventions into daily life activity, perhaps even relatively small ones. In their study of day-to-day interactions with energy technologies, for example, James Pierce, Diane J. Schiano and Eric Paulos suggest that domestic appliances be set to energy-saving modes or have efficiency options foregrounded for users, since users are at present disinclined to adopt energy-saving modes on their own.¹¹ With respect to the reduction of consumption via changes to household behaviour, Thomas Dietz, Paul C. Stern and Elke U. Weber outline principles that should guide energy-reduction policies and programmes, stressing that cost or financial incentives have not proved to be effective all on their own due to the durability of habits.¹² There are innumerable empirical studies of everyday practices related to energy use such as these, each of which tends to make presumptions about their subjects of study (i.e., 'users' or 'consumers'), how and why they make decisions, and the imperatives and directives guiding their actions and behaviours. Indeed, it is common for such studies to express a certain level of surprise or frustration at the apparent irrationality of subjects or their incapacity for change even once they come to better understand their energy-use practices. Dietz, Stern and Weber, for instance, find that even when people are confronted with the shortcomings of their energy habits, they tend to remain committed to them, which is part of the reason the authors come to focus on changes to appliance settings; while Daniel Schwartz and his colleagues highlight that reductions in energy use adopted by users during their study come to an end at its conclusion (users return to their previous patterns of energy use), suggesting that it is only with great difficulty that any mere awareness can transform into real behavioural change.¹³

The field of 'practice theory' has been much more attuned to the complexity of everyday individual and social behaviour in relation to energy use and environmental sustainability.¹⁴ In contrast to studies that use habit to bridge 'knowledge-action' or 'value-action' gaps, practice theory provides more thorough and nuanced accounts of the manner of and reasons for energy use. What constitutes 'practice' are the deep and detailed circumstances of daily life within which individuals carry out their life activities. In every society, but perhaps especially so in late modernity, life objectives are not organised directly by individual subjects, but emerge socially and within technological and economic systems that are always larger than the individuals who make use of them. Practice theory has explored the expansion of energy use by outlining the reasons for the adoption of daily hot showers instead of more infrequent cold ones (a relatively recent phenomenon)¹⁵ and by understanding changing expectations of comfort, linked (for instance) to shifts in views

about heating and cooling.¹⁶ The insights offered by practice theory about the transformation and reproduction of habits of energy use have been varied and multiple, but all have emphasised the range of forces and conditions that shape energy habits, which extend beyond ‘rational’ decisions about energy use to things such as comfort, predictability and common practice. This makes it all the more frustrating that economic decisions made via the market – as, for example, through the imposition of carbon taxes – continue to be widely and popularly imagined as a primary way of altering energy behaviour and re-working energy habits. The work of the social scientists who have had the most prominent role in giving shape to practice theory (including Elizabeth Shove, Dale Southerton and Alan Warde) have helped us to understand that (for instance) once hot showers become the norm of comfort and cleanliness, an increase in the price of the natural gas used to heat water for showers is unlikely to have the hoped-for effect of decreasing the amount of hot water used. As with other energy habits, the practice of showering becomes equivalent to *hot* showering, with cold showers becoming a break from the norm – a small change, but one with significant environmental consequences.

Practice theory’s conceptual and theoretical re-working of how energy and environmental consumption needs to be understood has had a further, equally important knock-on effect. By taking ‘practices, rather than individuals, citizens, societies, social groups or even sociotechnical systems – as the unit or focus of attention’,¹⁷ the elaboration of the precise configuration of habit tends to shift focus from consumption (individual, autonomous, discretionary) to a mapping of the systems that create the conditions and circumstances that produce consumption and within which it takes place. In other words, the site and act of (individual) consumption quickly becomes much less important than an understanding of the larger social system of consumption: any individual study becomes a synecdoche for the larger system of energy use.

In this context, the appearance of the work of Pierre Bourdieu in the study of energy habits and practices should perhaps come as little surprise.¹⁸ Practice provides a richer and fuller mapping of habit, which as an analytic tool tends to keep focus on individual actions, as opposed to social systems within which individuals move and which give shape to their actions. In its analytic aims and outcomes, practice bears at least a family resemblance to Bourdieu’s concept of ‘*habitus*’, which he describes in *The Logic of Practice* as: ‘systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organise practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them’.¹⁹

Though *habitus* is a complex concept that Bourdieu develops in (slightly) different ways throughout his career, it always names a key aspect of human life: a social aptitude and practical competency shared by individuals of the

Consumption through Changes in Household Behavior’, *Daedalus*, 142, 1, 2013, pp78-89.

13. Daniel Schwartz, Baruch Fischhoff, Tamar Krishnamurti and Fallaw Sowell, ‘The Hawthorne effect and energy awareness’, *Proceedings of the National Academy of Sciences of the United States of America*, 110, 38, 2013, pp15242-46.

14. See Alan Warde, ‘Consumption and theories of practice’, *Journal of Consumer Culture* 5, 2, 2005, pp131-53.

15. Martin Hand, Elizabeth Shove and Dale Southerton, ‘Explaining Showering: A Discussion of the Material, Conventional, and Temporal Dimensions of Practice’, *Sociological Research Online*, 10, 2, 2005.

16. Elizabeth Shove, *Comfort, Cleanliness and Convenience: The Social Organization of Normality*, Oxford, Berg, 2003.

17. Elizabeth Shove and Gordon Walker, ‘Governing transitions in the sustainability of everyday life’, *Research Policy*, 39, 4, 2010, p471. (Hereafter *Governing transitions*).

18. See, for example, Catherine Butler, Karen A. Parkhill and Nicholas

Pidgeon, 'Energy consumption and everyday life: Choice, values and agency through a practice theoretical lens', *Journal of Consumer Culture*, 16, 3, 2016, pp887-907; Harold Wilhite, *The Political Economy of Low Carbon Transformation*, *op. cit.*

19. Pierre Bourdieu, *The Logic of Practice*, Cambridge, Polity, 1990, p53.

20. Pierre Bourdieu, *Outline of a Theory of Practice*, Cambridge, Cambridge University Press, 1977, p26.

21. See David Nye, 'Path Insistence: Comparing European and American Attitudes Toward Energy,' *Journal of International Affairs* 53, 1, 1999, pp129-48.

same class, which produces similar lifestyle choices across a range of what might otherwise appear to be dissimilar fields (e.g., art, music, food, political choices). For Bourdieu, *habitus* 'functions at every moment as a matrix of perceptions, appreciations, and actions'²⁰ and is governed according to shared rules that need not be understood or recognised by any of those shaped by them. What is perhaps most powerful about Bourdieu's work is his identification of the way in which social aptitude and competency is simultaneously structured (i.e., individuals emerge into shared rules that pre-date them) and structuring (i.e., these rules shape feelings, beliefs, actions and other social practices). As in the case of practice, *habitus* dissolves any idea of habit that would continue to imagine the latter as a mode of behaviour that individuals could in any simple way unlearn or undo.

An energy *habitus* is thus a great deal more complex than anything that might be deemed an energy habit. Something that might be seen as a bad energy habit – running the dishwasher at the wrong time of day, using power to cool or heat a home or office excessively – is just one element of the larger set of dispositions captured by the concept of *habitus*. Indeed, when we begin to think of energy use in reference to *habitus*, the limits of appeals to habit in relation to energy use become readily apparent. On its own, habit continues to allow us to treat the dispositions of *habitus* or the complex orientations of practice as, in the last instance, a matter of choice. The 'structured structures' of *habitus*, on the other hand, imply a much larger set of acts and practices, all related to one another, and all developed in a manner that exceeds any individual decision or choice. This is not to say that users don't matter or that their energy habits don't tell us something about how energy is used. Rather, it suggests that the point of intervention to alter or intercede in the actions of users is elsewhere than in relation to personal or individual acts and practices. The desire that is coded into attention to energy habits – that is, to reduce or alter energy practices that have become part of daily life – is better oriented to an understanding of how to interrupt or re-imagine 'systems of dispositions'. If Bourdieu is to be believed, this is a much harder task than one might expect, and not only because of the absence of a 'conscious aiming at ends' in the constitution of *habitus*, but because of the 'path dependency' of energy habits that so many studies of energy practice reveal.²¹ Once we use more energy, it is very hard to use less, and not because of failures of individuals to adopt new practices or ethics, but because the whole *habitus* has been reconfigured in relation to perpetually rising levels of energy use.

As a potential site of intervention that might redefine energy practices, habit thus quickly breaks down as a result of its failure to grapple more fully with the complex character of human social practice. The transition of habit to practice to *habitus* I've mapped here challenges the idea that interventions into habit can offer a place to understand and undo energy dependency. Similar challenges to habit have come from other directions as well. In popular environmental discourse, criticisms of processes and practices that

focus mainly on consumer practice are widespread. For instance, a recent decision by the Canadian government (following similar decisions already enacted by other states) to ban single-use plastics has been criticised for targeting the wrong place when it comes to plastics – end-users, rather than plastic production, the effectiveness of recycling programmes or on the fact that most plastics in the ocean originate in the global South.²² In response to Canada’s announcement, Bjørn Lomborg, a frequent and controversial naysayer about what he takes to be eco-verities, writes: ‘we need to be honest about how much consumers can achieve. As with other environmental issues, instead of tackling the big-picture problems to actually reduce the plastic load going into oceans, we focus on relatively minor changes involving consumers, meaning we only ever tinker at the margins’.²³

There are reasons why the big picture is avoided, of course: doing away not just with plastic production, but also the growth economies that necessitate high levels of commodity production, would mean a significant redefinition of the political and economic status quo and a likely end to economies that place profit-making at the heart of their activity. A focus on habit resists big-picture questions that need to be asked (and answered), such as the need for everyone to have their own appliances, the obviousness of the separation of home and work (which necessities the daily movement of individuals to discrete spaces) and, indeed, the social and historical legitimacy of all the varied infrastructures that produce the dominant *habitus* of energy and environment.

Attention to habit tends to disavow the necessity of systemic change and places the onus on the ethics of individual choice, positioning the experience of energy dependency in a zone of moralising and demand-based solutions. The incapacity of changes to energy habit to have the hoped-for system effect have the critical function of pointing to the necessity of big-picture changes. Understanding the precise character of these changes, however, demands that we think about yet another way in which habit appears in relation to energy use: habit as a place where governmentality is enacted.

THE HABIT SYSTEM: GOVERNMENTALITY AND ENERGY

If changes in the practices that constitute habit have to occur not at the level of the individual but at a larger scale, this requires intervention into everyday practices by a political body, which at the contemporary moment and in many investigations of habit is generally imagined to be the state. This shift to the state introduces another idea of habit in relation to fossil-fuel dependency, one related to the sense already explored, but with important differences in the relation of habit to system, power and politics. How else is the terrain of environmental politics imagined today other than the constitution, management and transformation of habit – a top-down reconfiguration of social activity to different (and better) climate ends? Is not the appeal to the

22. Dan Gardner, ‘If we’re going to save our oceans from plastics, we have to address where it all comes from’, *Globe and Mail*, 10 June 2019, <https://www.theglobeandmail.com/opinion/article-if-were-going-to-save-our-oceans-from-plastics-we-have-to-address/>

23. Bjørn Lomborg, ‘Sorry, banning plastic bags won’t save our planet’, *Globe and Mail*, 17 June 2019, <https://www.theglobeandmail.com/opinion/article-sorry-banning-plastic-bags-wont-save-our-planet/>

state to manage systemic shifts in energy habit an affirmation of the operations of biopolitics and governmentality – what Michel Foucault names bluntly at the beginning of *Security, Territory, Population* as ‘the set of mechanisms through which the basic biological features of the human species became the object of political strategy’?²⁴ 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) economic growth, which requires ‘healthy’ populations if growth is to be maximised, and whose maximisation in turn confirms that the disciplinary processes and discourses of truth harnessed to give shape to populations are operating as they should be.

Biopolitics and governmentality have not typically been imagined in relation to the management and organisation of energy habit. Foucault understands governmentality in a much broader way, of course, as both ‘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, [with] political economy as its major form of knowledge’ and ‘the tendency, the line of force, 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*)’ (*Security, Territory, Population* pp108-9). While habit may not account for all of the processes by which populations are managed through governmentality, Tony Bennett makes a strong case for why it is impossible to understand power without seeing it in relation to the political organisation of the habits of modern populations. Bennett describes a modern ‘habit system’:

in which habit functions both as, but also as always more than, invariant repetition. This habit system forms part of a set of apparatuses for ordering and governing which, invoking the mechanisms of freedom as central to its operations, also distributes those mechanisms across time and across populations, serving as a means for differentiation, the latter depending on the degree to which they exhibit the capacities required for being governed by or governing one’s self through such mechanisms.²⁵

Governing by habit is something like a contemporary variant of Foucault’s description in *Discipline and Punish* of the organising power of repetition in social institutions such as schools and prisons.²⁶ In his analysis of the habit system, Bennett is more intrigued by the process of self-governance and the manner in which it has also become a mechanism of control and the exertion of power. What is of central importance in self-governance via habit is the ‘gap’ between one habit and another – the space between a ‘bad’ habit in the process of being left behind and (from the perspective of governance) a ‘good’ one being brought into existence. One might expect this gap to be a politically dangerous and unstable site. The undoing of one set of habitual

24. Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France 1977-1978*, Graham Burchell (trans), New York, Picador, 2004, p1. (Hereafter *Security, Territory, Population*).

25. Tony Bennett, ‘Mind the Gap: Toward a Political History of Habit’, *The Comparatist*, 40, 2016, p31. (Hereafter *Mind the Gap*).

26. Michel Foucault, *Discipline and Punish*, Alan Sheridan (trans.), New York, Vintage, 1995.

practices, perhaps long taken to simply be the way things are, and the process of creating a new set of habits is potentially a space in which freedom can be asserted and challenges made to the existing system of power. However, Bennett argues that the open character of the gap has now been incorporated into the practices of governmentality, in a manner that not only defers the potential political opening it represents, but harnesses it, transferring the work of changing habits from state to individual, even if ultimately organised and directed from the top down. This narrative of the politics of habit is in accord with accounts of the development of the entrepreneurial self of neo-liberalism, a self perpetually engaged in various forms of self-development and self-management within the operations of contemporary governmentality.²⁷ The gap of habit now provides ‘a range of authorities with a locus in the subject to which their expertise, and the technical means of applying it, might be brought to bear by inducting those subjects into directed programs of change in which the capacity for self-reflection produced by the gap is harnessed as a key resource’ (*Mind the Gap*, p36). What might once have been a space of freedom that allowed for the analysis and reshaping of inherited dispositions (in the terms to which Bourdieu’s notion of *habitus* draws attention) has now become a key site of modern governance: management through the self-management of subjects, a supposed freedom to constitute new subjectivities that is always already guided by forces of governmentality.

My intent in highlighting habit as an important mechanism of governmentality is not only to draw attention to the limits of any understanding of habit that doesn’t attend to the operations of power contained within it, whether in its figuration or re-figuration. The point is also to ponder what I see as a key question related to habit and energy: why so little has been done by states in relation to habits of energy use to date, given the way that habit can be employed as a site of governmentality, both externally (‘governed by’) and internally (the self-management of populations). If fossil-fuel use is an (ultimately) deadly addiction, a dependency that would be better done away with, why not engage in the large-scale modification of the habits and practices of subjects through operations of self-management or through other instantiations of state power? In short, if governmentality is as effective a programme of power as Foucault, Bennett and others suggest – perhaps especially in its neo-liberal variant²⁸ – why don’t governments start the process of undoing fossil-fuel dependency by systematically reimagining the habits that sustain this dependency? The existential threat posed by continued practices of energy use in the global North, and by both the desire and necessity for expanded levels of energy use in the global South, would suggest that there would be a much more intensive use of habit (and of governmental practices more generally) to manage levels of energy use, especially fossil-fuel use. That this hasn’t happened with anywhere near the level of intensity required demands an accounting – one, I think, beyond the quick and easy gesture to the current significance of fossil-fuel extraction to economies or

27. See Pierre Dardot and Christian Laval, *The New Way of the World: On Neoliberal Society*, Gregory Elliot (trans.), New York, Verso, 2017; Imre Szeman, ‘Entrepreneurship as the New Common Sense,’ *South Atlantic Quarterly* 114, 3, 2015, pp471-90.

28. See (among others) Wendy Brown, *Undoing the Demos: Neoliberalism’s Stealth Revolution*, Cambridge, The MIT Press, 2015.

29. See, for example, Bill Curry, 'Energy executives listed on organizing team for Conservative Party event with Andrew Scheer', *Globe and Mail*, 2 August 2019, <https://www.theglobeandmail.com/politics/article-energy-executives-listed-on-organizing-team-for-conservative-event/>

the power-play of oil companies to keep their interests politically front and centre. I would be the last person to deny the ongoing influence of the fossil-fuel industry on the practices and policies of states, especially in those states with significant oil industries.²⁹ My point here is, rather, to try to consider the possibilities and limits of habit in relation to energy dependency when imagined in relation to the *systemic* deployment of power, as opposed to the operations of individuated action and practice explored earlier in this paper.

Why hasn't habit been used as a site and mechanism of governmental power in relation to energy use? I want to draw attention to four reasons why this has been the case. A first explanation returns us to practice theory. Shove and Walker note that 'discussions of sociotechnical transitions and their governance routinely obscure the central role that practitioners themselves play in generating, sustaining and overthrowing everyday practices' (*Governing transitions*, p 476). They argue that in relation to energy use and environmental sustainability, states take existing energy practices as given, that is, as something that populations have always already enacted in much the way that they are doing at the current moment. If states attend to the use of energy in the home, it is the modern home and the energy practices associated with it: heating, air conditioning, refrigeration, and so on. Both the histories and futures of habits of energy use, moments in the recent past when societies used far less energy and near futures when they might again do so, are lost in the headlights of present energy habits that are taken as necessary and given. Further, governance is imagined as a force of influence that is 'somehow external to the reproduction and transformation of practice' (p475). Perhaps unsurprisingly, states see populations as easily and directly managed and manageable. Shove and Walker argue that governance should be alert to energy practice as opposed to habit, which means being attuned to 'how consumers, users and practitioners are... actively involved in making and reproducing the systems and arrangements in question'(p475). In short, one of the framing limits of a governmentality enacted via habit is that the latter constitutes far too crude an understanding of the complex organisation of energy practices. One of the appeals made by practice theory to governments has been to be attentive to the full complexity of energy use if and when they undertake interventions into habit. The failure of some of the programmes that states have enacted regrading energy use to date indicate that they have not taken this suggestion to heart, preferring to make use of (for instance) tax schemes to get subjects to purchase electric cars or higher gas taxes to refrain from fossil-fuel use (due to the increased cost of filling up at the pump). The ongoing increases in fossil-fuel use in almost every polity around the world suggest that these programmes have not had anything like their desired effect.

Whether systems of governmentality can, in fact, truly attend to the complexity of practice instead of habit is one question. A deeper one is whether governmentality is a mode of power that is attentive to energy (specifically) and the environment (more generally) at all. One of the key

points to which a number of critics in the ‘energy humanities’ have drawn attention is that energy per se has proven to be a blind spot in cultural, social and political narratives of the constitution of modernity.³⁰ This gap or absence is not merely a scholarly limit, but is a component of the broad sensibility of what constitutes the social and what doesn’t; and it is an absence that exists within governmentality, too. Put simply, practices of governmentality have never had to figure energy as an element of the operations of power, because moderns tend to understand energy as little more than an external input into social life: it powers the social, but isn’t understood to have a fundamental role in shaping every aspect of it.³¹

Despite the range of mechanisms and apparatuses Foucault 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’)³² 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’, (*Security, Territory, Population*, p11) – none speak directly to energy as a primary concern of state power, *especially* as this is connected to the state and fate of populations. This absence, which it can be argued is true of contemporary political philosophy more generally,³³ has led to Dominic Boyer’s argument for the necessity of an ‘energopolitics’ that would supplement Foucault’s articulation of biopolitics. By always already insisting on the ‘the complex operation of modern states and modern power that have always sought to control and capitalise on the transformational power of energy’, energopolitics offers scholars a sharper sense of the operations of biopolitics than states have been able to represent to themselves.³⁴ It is not just the constitution of energy use as habit (rather than practice, or as a component of *habitus*) that has caused a lack of attention to fossil-fuel dependency; it is that energy was never configured as an essential element of the management of modern populations to begin with. How, or even if, this constitutive absence might be overcome remains an open question; it is a question that needs to be answered if existing patterns of energy use can ever be fundamentally undone.

There is a third reason for the inattention of governmentality to energy – a related gap or absence in the operations of biopolitics that has an impact on the constitution of habit as a site of environmental politics. Hannah Knox identifies a new concept of the population that has developed in 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’.³⁵ Any given state can only employ the techniques of government on those populations directly under its control. Knox’s point is that there are effectively two forms of population in the world at present, only one of

30. Imre Szeman and Dominic Boyer, ‘Introduction: On the Energy Humanities’, Imre Szeman and Dominic Boyer (eds), *Energy Humanities: An Anthology*, Baltimore, Johns Hopkins University Press, 2017, pp1-13.

31. See Imre Szeman, *On Petrocultures: Globalization, Culture, and Energy*, Morgantown, West Virginia University Press, 2019, p220.

32. Michel Foucault, ‘Society Must Be Defended’: *Lectures at the Collège de France 1975-1976*, Graham Burchell (trans.) New York, Picador, 1997, p243.

33. See Sara Nelson and Bruce Braun, ‘Autonomia in the Anthropocene: New Challenges to Radical Politics’, *South Atlantic Quarterly*, 116, 2, 2017, pp 223-35; Imre Szeman and the Petrocultures Research Group, *After Oil*, Morgantown, West Virginia University Press, 2016.

34. Dominic Boyer, ‘Energopolitics and the Anthropology of Energy’, *Anthropology Newsletter*, May 2011, p5.

35. Hannah Knox, ‘Footprints in the City: Models, Materiality, and the Cultural Politics of Climate Change’, *Anthropological Quarterly* 87, 2, 2014, p414. (Hereafter *Footprints*).

which has been imagined explicitly in relation to environmental concerns. The first are those populations, typically within existing nation states, which have been ‘constituted through political projects of statistical aggregation’. The second is the planetary population Knox describes as an ‘empty population’, which belongs to no specific state project, and so is not subject to governmentality, but is nevertheless the ‘only available interpretation of the causes of a particular material effect’ (i.e., climate change) (*Footprints*, p415). It is the population of the whole world, as opposed to this or that state, which is responsible for climate change (if differentially, with enormous gaps between developed and developing countries, both at the present time and historically), and it is at this level of the population that shifts in habit have to be produced via governmentality.

To be clear, planetary population is empty only from the perspective of existing forms of governmentality, which have been configured in relation to specific populations and not the (global) population in general. The effect of this empty population on political intervention with respect to energy and the environment is significant. While population has constituted the principal site at which states configure power/knowledge and is also the principal guarantor of their political authority, this empty population simply cannot be figured as an issue or problem within extant practices of governmentality. The population of the entire globe is outside the purview of states; and yet it is this population that necessitates a radical change to energy use, including more politically just uses of energy than exist at the present moment.³⁶ It is not the case that everyone, everywhere needs to use less energy; there is a significant inequity in energy use across the planet, which has meant that, far from using excessive levels of energy, much of the planet’s population needs to consume *more*.³⁷ It may well be that one of the fundamental desires that underwrites environmentalism – which amounts to a biopolitics organised 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 entire planetary group 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 existing biopolitics. What is needed is a different form of political organisation that *begins* at the level of the planetary rather than hoping to adapt existing state systems to it; the management of habit via the techniques of governance and self-governance might never produce the hoped-for intervention into current practices of energy use.

These three points – the complexities of practice, absent energy and empty populations – offer a range of epistemic, ontological and political limits when it comes to why governmental systems have not tried to manage energy via systemic interventions into habit with anything like the intensity one might have expected. There is an equally important fourth point. Even if practices of governmentality could attune themselves to what Knox describes as the empty population of the planet (i.e., through future, more specific and

36. See Noel Healy and John Barry, ‘Politicizing energy justice and energy system transitions: Fossil fuel divestment and a “just transition”’, *Energy Policy* 108, 2017, pp451-59; Georges Alexandre Lenferna, ‘Can we equitably manage the end of the fossil fuel era?’, *Energy Research and Social Science*, 35, 2018, pp217-23; Jessica Smith and Mette High, ‘Exploring the anthropology of energy: Ethnography, energy, and ethics’, *Energy Research and Social Science* 30, 2017, pp1-6.

37. See Ivan Illich, ‘Energy and Equity’, Sajay Samuel (ed.), *Beyond Economics and Ecology: The Radical Thought of Ivan Illich*, London, Marion Boyars, 2013, pp 69-104; Erica Schoenberger, *Nature, Choice, and Social Power*, London, Routledge, 2015, p5.

insistent forms of the Paris Accord), the deep interventions into energy habit that this would demand threatens to open up gaps from within which the legitimacy of existing systems of power might be fundamentally challenged. When it comes to energy, the gap within the habit system described by Bennett has yet to be domesticated and rendered safe for power to alter the actions of its populations. Opening up the energy-habit system in anything more than the timid ways that have taken place to date might produce deep challenges to state power, and questions about how and why populations continue to be structured by states at all. The kind of challenges I have in mind are ones that demand a wholesale accounting from existing systems of power of the rationale for their continued existence in light of their climate and environmental implications. Such challenges are emerging from multiple sites and a range of communities, including indigenous groups, activist groups with a global presence such as Extinction Rebellion and the ‘school strike for climate’ movement led by Greta Thunberg (recently described by OPEC as the ‘greatest threat’ to the oil industry).³⁸ The empty population of the globe is being rapidly filled; it is both a space that governmentality finds difficult to manage and control (which is not to say that it tries to do just that via practices of violence and exclusion), and a safe space of community building. For these reasons, it is also a space of power, an environmental common in the process of being constituted in and against the limits of state power.

Energy habits can be dangerous to change, since changes to so fundamental a component of the social and economic can show the constitutive routines and habits of quotidian life to be sites of governance; in the process, the shape of everyday life is also revealed as contingent as opposed to necessary. The incapacity of existing forms of governmentality to address energy use in anything more than a limited way is, in part, a strategy to maintain the status quo. But it is more than this. For the reasons that I point to above, state-based governmentality has difficulty recognising energy as a systemic element of contemporary capitalism – not just a fuel for a system of power that could be replaced by another fuel source, but as a constitutive element of it. This lack of recognition means that large, wholesale changes to energy habit of the kind that would be required to address climate substantially have largely been avoided, since attempts at change cannot be confidently managed in a manner that might affirm and legitimate existing forms of power. Fossil-fuel dependency can be narrated as the persistence of ways of being and belonging developed in relationship to a specific energy source. It’s hard for power to break its own habits of power and rewire the habits of fossil-fuel use because it doesn’t have the mechanisms to fully understand its dependency. What is required are new modes and models of governance more fully attuned to the implications of continued high levels of energy use within states for the population of the planet as a whole.

The political limit when it comes to ending fossil-fuel dependency that I have traced here can be seen in current international efforts to address climate

38. Jonathan Watts, ‘“Biggest compliment yet”: Greta Thunberg welcomes oil chief’s “greatest threat” label’, *Guardian*, 5 July 2019, <https://www.theguardian.com/environment/2019/jul/05/biggest-compliment-yet-greta-thunberg-welcomes-oil-chiefs-greatest-threat-label>

39. Bruno Latour, 'On a possible triangulation of some present political positions,' *Eurozine*, 18 August 2016, <https://www.eurozine.com/on-a-possible-triangulation-of-some-present-political-positions/> (Hereafter *Triangulation*).

change. Social theorist Bruno Latour has suggested that the announcement of the treaty concluding the 2015 United Nations Climate Change Conference (COP 21) constituted a 'world historical episode'.³⁹ This is not for the reason normally imagined, which is that all of the sovereign nations on the planet had finally declared a common intent to address climate change. Rather, it was because these 'nations realized as never before that the world toward which they were happily moving ... has no terrestrial existence' (*Triangulation*). In advance of COP 21, every country was asked to indicate its future plans for climate mitigation, including plans for changes to fossil-fuel use. 'When participants began to add up the wish lists of China, India, Brazil, Europe, Canada, the United States, Philippines, Ethiopia, etc.' Latour writes, 'it became clear for all the other participants stuck in the same wood-beam hall in the Paris le Bourget exhibition centre, that there existed no credible planet capable of absorbing all of those wishes' (*Triangulation*). The fact that the combined list of plans would require the equivalent of as many as five Earths to make possible might be taken as a significant challenge to existing practice of governance. Yet, instead of reconsidering the mechanisms and practices of state governmentality, the Paris Accord further reinforced its limits, and in a paradoxical fashion. Even though the goal toward which nations could be said to have been moving – 'one common horizon for all nations' – had disappeared, they chose to take it upon themselves as individual states to address climate change. Latour writes: 'there seems to be no way to change direction and to diverge even a little from the "business as usual" trajectory' (*Triangulation*). I have tried to argue that this is in part because of how poorly attuned governmentality is to practices of energy use, and in part because of the dangers for power of raising questions about so fundamental component of the everyday.

AGAINST HABIT

Habit offers a tempting site at which to imagine an effective intervention into energy use – an actual, material way of mitigating our dependency on fossil fuels. All one needs to do, it seems, is understand which energy habits are bad ones, develop models about the relationship between attitudes and behaviour in relation to habit, and create mechanisms to shape either attitudes or behaviour, or both. Convincing consumers to take one less shower a week or to ride the bus to work from time to time cannot help but limit the amount of energy used on the planet.

The problem with this view of habit is not only that it constitutes too simple a view of the operations governing practices of energy use, or that its emphasis on end consumers misses the far larger contribution made by producers to global emissions.⁴⁰ The problem is also that the focus on habit domesticates and rationalises current practices of energy use: the incorporation of the Friday bus ride and the occasional cold shower has an unfortunate effect of

40. See Tess Riley, 'Just 100 companies responsible for 71% of global emissions, study says', *Guardian*, 10 July 2017, <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change>

legitimizing the energy practices of the rest of the week. Finally, changes to habit have the effect of limiting or negating a discussion of the deep, systemic changes that are needed to constitute genuinely new practices related to energy, that is, social practices that might in fact be sufficient to alter the dominant sources of energy used and so change carbon emissions, too. The kind of changes I have in mind are revolutionary ones: instead of Band-Aid changes to commuting, for instance, they would involve redefinitions of the rationale, organisation and import of work, as it is currently imagined and figured into everyday life. While this might seem like an issue that isn't directly related to energy use, nothing could in fact be more important than to open up questions about the energy demands made by modes of living and modes of life – the energy demands of the *habitus* that we occupy.

Habit is a mechanism that permits existing forms of power to manage the consequences of the use of fossil-fuel energy in a limited way, while also affirming and legitimating larger mechanisms of governmentality. If habit is a ruse, the wrong site at which to address climate change for those genuinely interested in doing so, it is also because habit is a key site of the operations of power, which controls populations (at least in part) via the management of habits. Yet, given the seriousness of the threat posed by climate change, the operations of governmentality have been limited and tentative in relation to modifications of energy habit. If there is a reason why states employ habit far less than expected as a mechanism to modify the energy practices of their subjects, it has less to do with the cynical abandonment by governments of their populations to climate threats, than with the limited capacities of states to understand the complexity of energy practices, the social operations of energy, and the planetary (as opposed to nation-based) population to which climate poses a threat.

The political danger of tarrying with habits they cannot understand has largely led states to avoid messing with energy habits. Those committed to social and political change to address fossil-fuel dependency should probably avoid habit too. While foregrounding habit can prove useful in understanding the operations of governmentality in relation to changes in energy use (what it does or does not do, and what it can or cannot do), it is a concept that impedes investigations of the real questions that need to be asked in relation to energy dependency: the reasons for community, the organisation of social life and the deep relation of humanity to the world it inhabits.

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