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A post-fossil fuel transition experiment: Exploring cultural dimensions from a practice-theoretical perspective

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ABSTRACT

Societies must rapidly abandon the use of fossil fuels to avoid the worst effects of climate change. This paper examines the cultural dynamics of the energy transition by focusing on a post-fossil fuel experiment in an international artist and researcher residency. The aims of the experiment were to explore how fossil fuels currently determine human lives and to imagine and build pathways forward. The six-year ethnographic case study was analysed from the perspective of practice theory, shedding light on how changes in the material arrangements of energy, food and transportation reconfigure meanings and competences. These transformations were found to have inspiring as well as unfortunate, even threatening aspects that need to be taken into account in transition design and governance.

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1. Introduction

Societies must rapidly abandon the use of fossil fuels to avoid the worst effects of climate change (Anderson and Bows, 2011). This is a huge challenge, because the existing infrastructure of industrialised societies relies on a constant flow of fossil fuels: oil, natural gas and coal are needed for maintaining basic activities such as transportation, food production, materials production, heating and electricity provision. How should we understand the dynamics of this transition? Although there has been some interest in studying energy-society relations from social-scientific perspectives over the decades (Rosa et al., 1988), energy has largely remained as a blind spot in research not specifically dedicated to it (Salminen and Vadén, 2015). Recently, however, fossil fuels in particular have received much more attention (Urry, 2014). They have been studied historically within economic systems (Malm, 2016), from the perspective of power (Mitchell, 2011) and philosophically with a focus on experience (Salminen and Vadén, 2015). However, there has been less interest in the social and cultural dimensions of

energy, or as Shove and Walker (2014) put it, in the question “what is energy for”.

This paper explores the cultural dynamics of the energy transition, joining the diverse group of scholars under the label *energy humanities* (Boyer and Szeman, 2014; Diamanti and Bellamy, 2016). Energy humanities questions the commonplace idea that societies only need to switch to cleaner modes of production – as if everyday life could remain unchanged through post-fossil fuel transitions. This idea can be seen as the basis for the typical market and technology oriented and politically oriented narratives (for more about post-fossil transition narratives, see *Petrocultures Research Group, 2016*). As stated by Boyer and Szeman (2014: 40), “neither technology nor policy can offer a silver-bullet to the environmental effects of an energy-hungry, rapidly modernising and growing global population.” To better understand the possibilities and potential pitfalls of post-fossil fuel transitions, we need to analyse cultural aspects such as habits and aspirations that are behind energy and environmental dilemmas.

One foundation for this study is Salminen and Vadén's (2015) thesis that energy has been a blind spot for social-scientific analysis for a reason: one of the properties of fossil fuels is that they make themselves unseen. According to these authors, it is precisely the massive and growing use of fossil fuels that has physically enabled humans to disconnect from the material world, to not care

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about the energy and material flows required to sustain their everyday life. This disconnection has gradually become ingrained in our routines and beliefs. Without fossil fuels – the huge underground energy storage in easily accessible and usable form – humans cannot, however, anymore sustain the illusion of being autonomous from nature. The lower energy returns of other energy sources means that societies will need to allocate a larger share of their overall activity in energy production than during the fossil era (Hall et al., 2009). Profound cultural transformations seem to be taking place: energy and materials will again rise from the background to the foreground.

The aim of this study, then, is to explore the cultural complexities and viewpoints that arise when everyday fossil-fuelled practices are shaken up. The article focuses on a six-year ethnographic case study of the on-going experiment of Mustarinda, an artistic-scientific collective and residency centre launched in 2009. The empirical study is based on the life and work of the researcher as a member of the Mustarinda collective. Mustarinda joins the long artistic tradition of playing with and studying materials and human perceptions of them. It frames its experiment as exploring ways of living and working that would be necessary if societies were to limit global warming close to 1.5° above pre-industrial levels as agreed in the UN climate negotiations in Paris in 2015. The case is analysed from the perspective of practice theory (Schatzki, 2001; Reckwitz, 2002), which is a form of cultural theorising that enables the simultaneous examination of material and social forces affecting energy transitions. It directs attention to social practices rather than individual choice or societal structures and in doing so brings to light historically and contextually evolving cultural patterns.

The paper is structured as follows. Section 2 elaborates on a practice-based perspective on the experiment. Section 3 describes the ethnographic case study and its methods, and presents the findings of the analysis. The paper ends with a discussion in section 4 and conclusion in section 5.

2. A practice-based perspective on a post-fossil fuel experiment

This study examines a socio-technical experiment (Bulkeley and Broto, 2012) which explores ways to improve our mental and bodily understanding of how our lives are currently conditioned by fossil fuels and charts the hopes, fears and practical complexities associated to living without them. Such experiments provide settings for learning and seeds for not only incremental innovation but also for more radical societal transitions (Kivisaari et al., 2004; Schot and Geels, 2008). So far, the transition literature has mostly focused on the technological aspects of socio-technological transitions, at the expense of the social (Seyfang and Smith, 2007; Seyfang and Haxeltine, 2012; Jasanoff and Kim, 2013). As Walker and Shove (2007: 768) commented, “for all the talk of socio-technical coevolution, there is almost no reference to the ways of living or to the patterns of demand implied in what remain largely technological templates for the future.” This paper zooms in on everyday practices: how people, technology and nature interact. As a culturalist approach (Reckwitz, 2002), practice theory provides a solid theoretical framework for studying practices which guide how people relate to changes in technologies and materials. Technological changes do not happen in a social vacuum, and practice theory highlights in this change process the role of pre-learned aspirations, meanings and skills that are shared and historically constructed rather than following individuals’ psychological or physiological traits.

The transition literature typically draws on a multi-level perspective that identifies and distinguishes between niches,

regimes and landscapes (Loorbach, 2010). According to this framework, niche innovations seek to challenge dominant socio-technical regimes, while both are situated within a broader socio-technical landscape. In this conceptualisation, the landscape refers to a macro-level exogenous environment that consists of, e.g., macro-economics, deep cultural patterns and macro-political developments, and lies beyond the direct influence of niche and regime actors (Schot and Geels, 2008). A practice perspective draws attention to the close connections between all three levels. In doing so, it gives strength to the idea that transitions take place through the co-evolution and mutual adaptation within and between these levels (Shove and Walker, 2007). Importantly, however, it challenges the view that the macro-level landscape would be exogenous to the niche and the regime. Rather, it shows how the broad cultural patterns are, in fact, key elements of the practices that constitute the niche and the regime.

The case experiment can be seen as a local grassroots-level niche, which has the potential to inform a more global niche and then disturb the dominant socio-technical regime (Seyfang and Smith, 2007; Schot and Geels, 2008; Loorbach, 2010). A local niche is a ‘protected’ space, blocking away some of the usual structural and performance-related pressures and allows something new and unexpected to emerge (Schot and Geels, 2008). In terms of practices, it alludes to a specific set of spatially and temporally bounded material arrangements as well as practices that are triggered only within this niche. This reflects well one of the core ideas of the artist and researcher residency: it is a somewhat isolated space that allows concentrated work and creative thinking in a particular setting, away from everyday routines and pressures. For the residency organisers, it is a distinct space that can be and is designed to function differently from the rest of society. Ultimately, the purpose is to create new understanding for the mainstream, or the society at large. This can be realised through the residency guests’ and organisers’ art, research and other communication, as well as by broadening the niche by redoing similar experiments elsewhere (Loorbach, 2010).

Practice theory (Schatzki, 2001; Reckwitz, 2002) provides a distinct perspective on the deep social and cultural dimensions of socio-technical experiments. According to practice theory, social life is determined by practices that carry over time and space the habitual ways in which people relate to things and each other. Practices are socially learned repositories of particular ways of thinking and doing. Rather than acting as purely rational, autonomous agents, people draw on social practices to act. A practice account directs attention to both individualist and societist dimensions of social life (Schatzki, 2005). Whereas individualists attribute social order to features of individuals and their direct interactions, such as individual skills, interpretations and cognitions, societists look for social structures that determine individuals’ doings. Practice theory maintains that while practices constrain and guide human activity, they only exist through continued performance, which always involves interpretation and improvisation.

Practices have been conceptualised in many different ways (see, e.g., Röpke, 2009). This research draws primarily on the work of Elizabeth Shove and her colleagues (Shove, 2010; Shove et al., 2012; Shove and Walker, 2014), according to whom a practice consists of three types of interlinked elements: meanings (symbolic structures, ideas, aspirations), competences (skills, know-how, technique) and materials (technologies, human bodies, things, the stuff of which objects are made). Practices are, thus, materially conditioned, require competences to be enacted properly, and give meaning to social action. Additionally, there are rules, “explicit formulations that prescribe, require, or instruct that such and such be done”, which also inform and govern practices (Schatzki, 2005:

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