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Attentive, speculative experimental research for sustainability transitions: An exploration in sustainable eating

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ABSTRACT

The critical role of everyday practices in climate change mitigation has placed experimental approaches at the top of the environmental policy agenda. In this paper we discuss the value of behavioural approaches, practice theories, pragmatic tinkering and speculative thinking with respect to experimentation. Whereas the first two have been much discussed within sustainability science and transition research, the notions of pragmatic tinkering and speculative thinking radically broaden the scope of experimental research and its contribution to sustainable everyday practices. Pragmatism brings to the fore the need to coordinate multiple practices and understandings of good eating, as these may clash in practice. Through this lens, the value of experimental research lies in revealing frictions that need to be resolved, or tinkered, in practice. Speculative experimentation, in turn, refers to the power of experiments to challenge the experimental setting itself and force thinking about new possibilities and avenues. We investigate the value of all four approaches in relation to our experiments with sustainable eating in the Finnish and Nordic context. Our elaboration justifies the need to broaden the conception of experimental research in order to capture the multiplicity of sustainable eating. Hence, we call for attentive, speculative experimental research aimed not only at testing solutions for sustainable everyday practice, but also at reflecting on the practice of experimentation itself.

1. Introduction

Experiments and experimental cultures are being increasingly called upon to test and invent solutions to wicked sustainability problems. They are seen as a dynamic means not only to develop novel technologies, but also to get new actors involved (e.g. Heiskanen et al., 2015; Schot and Geels, 2008; Smith et al., 2016). The critical role of everyday practices in climate change mitigation has raised experiments in sustainable eating, energy use and mobility as key arenas of invention (Devaney and Davies, 2017; Laakso, 2017; Liedtke et al., 2015; Marres, 2009). The expansion of experimentation to everyday life and practices opens new avenues for research (Jalas et al., 2017; Mylan, 2015) and may alter the meaning of experimentation itself.

In the transition towards sustainable everyday living, behavioural approaches have attracted increasing attention (Godfray et al., 2018; Just and Gabrielyan, 2016; Lehner et al., 2016; Reisch et al., 2017; Whitehead et al., 2018; Hukkinen (2016)). The latest developments in the behavioural sciences regarding slow and fast, rational and intuitive cognitive processes (Kahneman, 2011) have brought about a boom in experimental research on how to influence behaviour by nudging the fast, intuitive cognitive processes in our everyday decision making (Thaler and Sunstein, 2008). These behavioural experiments rely largely upon classical experimental design, where an intervention is made to gain tested knowledge on cause-and-effect relationships (for reviews see e.g. Broers et al., 2017; Nørnberg et al., 2016; Wilson et al., 2016).

Another prominent body of research on everyday life transitions has been practice theories. Theories of practice draw attention to agency and the demand side in understanding societal transitions, whilst also paying attention to their historical and structural constituents (Schatzki, 2002; Shove et al., 2012; Spaargaren et al., 2012; Warde, 2016). Rather than individual behaviour, they advocate social practices as a key unit of analysis. Theories of practice show

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that any enduring change in everyday life requires the reconfiguration of a complex set of interlinked elements and their recurring performance. In this body of research more attention to experiments and experimentation has also been called for (Devaney and Davies, 2017; Jalas et al., 2017; Laakso, 2017). The proponents underline that only by testing sustainability solutions in practice, and by the practitioners, can their functioning and relevance be guaranteed (Botero and Hyysalo, 2013).

These two currently much debated approaches to everyday behaviour and practices offer significantly diverging approaches to experimentation and experimental research on sustainability transition. The premises and possibilities of experimentation widen even further when we bring into the discussion the views of pragmatic thinking (Mol, 2002, 2010) and speculative experimentation (Stengers, 2010). These two approaches have been little discussed in relation to sustainability transitions. They stem from science and technology studies and complexity thinking and highlight the performative role of experiments and experimentation (Callon, 2009; Law, 2004). The former sees experimentation as a key feature of any practical problem-solving situation; the latter suggests experimentation to be crucial in envisioning alternative, yet-to-be capacities of practices.

In sustainability studies, more conceptual clarification has been called for regarding the premises and use of experiments in societal transition and research (Ansell and Bartenberger, 2016; Caniglia et al., 2017; Hildén et al., 2017). In that methodological discussion, the specifics of experimentation in everyday life have, however, gained less attention. In the present study we set out to investigate the value of behavioural approaches, practice theories, pragmatic tinkering and speculative thinking, and ask what horizons they open for experimental research. We evaluate in detail how the various experimental approaches allow radically different issues to be revealed, investigated and acted upon.

We explore the potential of the different approaches to experimentation in relation to sustainable eating. More specifically, we focus on attempts to reduce excessive consumption of meat in affluent, Western diets. The reduction of meat consumption has been identified as critical not only in mitigating climate impacts, but also in combating major health problems (McMichael et al., 2007; Tukker et al., 2011). The challenge has been taken seriously in the Nordic nutrition recommendations, which boldly integrate climate and nutritional goals in their definition of sustainable eating (NCM, 2012; see also Fischer and Garnett, 2016). In Finland and Sweden public food services have had a key role in guiding healthy eating through free school meals and employee-supported workplace lunches. The latest Finnish nutrition guidelines recommend (NNC, 2014, 2017) that schools and workplaces should not only offer nutritious and healthy food for all, but also support children, teenagers and adults in practicing sustainable eating as part of their everyday lives. Despite these goals and efforts, however, meat consumption in Finland has not notably fallen (Natural Resources Institute Finland, 2018) while, globally, the consumption of meat continues to increase unsustainably (Godfray et al., 2018).

These pressing challenges offer a fruitful setting to investigate what experimental research can offer for inventing, testing and opening up sustainable ways of eating. We draw on a series of experiments in school and workplace restaurants where we tested and sought practical solutions for sustainable eating. While highlighting the value of different approaches to experimentation, the experiments underscore the need to broaden the conception of experimental research in order to capture the multiplicity of sustainable eating. We start by introducing the different approaches and then discuss them in relation to the experiences gained from our empirical experiments in sustainable eating. The results suggest that in addition to testing solutions for sustainable eating we need attentive, speculative experimental research that generates discussion on the practice of experimenting itself.

2. Four approaches to experimentation in sustainable eating

2.1. Nudging behavioural change with controlled experiments

In behavioural science, nudging refers to a subtle design of the context of choice in a way that mobilises the unconscious mind and alters human behaviour in a predictable manner (Thaler and Sunstein, 2008). The notion of nudging is based on the differentiation between cognitive processes that are fast, automatic and intuitive and those that are slow, deliberate and conscious, introduced by Kahneman (2011). The fast, intuitive processes largely guide our daily routines, whereas the slow processes rely on much greater deliberate cognitive effort and are employed when making decisions on important choices in life. Importantly, proponents of nudging see these dual processes as interlinked and argue that we should better acknowledge the significance of fast, intuitive thinking in the policies guiding our behaviour.

Nudging departs from the model of rational choice, which supposes that individuals use all available information to make decisions. As information campaigns for healthy eating have largely proven ineffective, experiments in nudging are now booming. Experiments have been carried out to test the effects of choice architecture, default choice, rewarding and social norms on eating behaviour (for reviews see e.g. Broers et al., 2017; Nørnberg et al., 2016; Wilson et al., 2016). The experiments mostly follow a classical experimental design where the environment is tightly controlled in order to reveal and isolate cause-and-effect relationships (Ansell and Bartenberger, 2016). The factors investigated are carefully set beforehand and a randomized control group is set for comparison (Dehue, 2001). Interestingly, the most popular places for nudging interventions have been school, university or workplace canteens, which offer an easily controllable environment for experiments. They also represent settings where choices on what to have for lunch are made in a highly intuitive, automatic manner.

Findings from the experimental trials are, however, mixed (Broers et al., 2017; Nørnberg et al., 2016; Wilson et al., 2016). The trials have often been one-off, targeted at particular groups and their effects have been hard to detect. In real-life settings the effects tend to be muddled with other interfering variables. In the controlled experimental design context, interfering factors are usually considered negatively as noise or a distraction. The focal interest on individual behaviours inhibits integrating into the explanation the often unintended, cumulative – and even changing – factors arising from the context. Such a stance also makes behavioural experiments unable to reflect on how they co-participate in enacting behavioural change. This point is being raised by an increasing number of social scientists who insist that behavioural change policies – including nudging experiments – should be opened up to democratic control (Evans et al., 2017; Selinger and Whyte, 2011; Wilkinson, 2013). Nudges work by influencing the intuitive, non-deliberative cognitive processes of individuals, and while experiments are designed to test that assumption, the public or the target audience cannot be engaged in the design or evaluation of the experiment. In addition, following the principles of controlled experimental design, the researcher is supposed to stay external to the experiment to minimise bias (Ansell and Bartenberger, 2016; Dehue, 2001).

The dual model of cognition, however, insists on combining intuitive and reflective cognitive processes in behavioural change approaches. In line with this, policy-oriented behavioural