Sustainable Consumption, Behaviour Change Policies and Theories of Practice

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Policies for sustainable consumption - as they are currently configured - derive from particular social science approaches in which the individual is the basic unit of analysis. This paper considers non-individualist perspectives and their potential to inform practical initiatives for behaviour change. The analysis considers a number of existing behaviour change interventions (focused on mobility, eating and sheltering) and re-interprets them in light of practice-based approaches to consumption and social change. In positioning practices as the appropriate 'unit of intervention', a number of issues are discussed relating to: (1) conceptualising sustainable practices; (2) the durability of behavioural changes; (3) the multiple components that co-ordinate and institute practices as recognisable entities and; (4) the various ways in which practices are reproduced through performances. Crucially, it is suggested that theories of practice provide an opportunity to re-orient policies for sustainable consumption insofar as they call for programmatic and adaptive measures whilst identifying a possible role for governments and policy makers.

Introduction

It is well established that current patterns of consumption are ecologically unsustainable and that the challenges of mitigating (and adapting to) climate change require that different ways of living and consuming are adopted in developed nations. Against this backdrop, notions of behaviour change have become something of a 'holy grail' (Jackson 2005) such that the pursuit of sustainable consumption is typically understood as a matter of fostering more environmentally

friendly behaviours at the level of households and individuals. It is not especially controversial to note that current initiatives and interventions work with a particular set of understandings about consumption, human action and social change. These understandings are drawn largely from neo-classical economics, behavioural economics and social psychology. Slightly more controversial, perhaps, is Elizabeth Shove's characterisation (and caricaturing) of how such theoretical approaches and insights tend to be transposed into policy as the ABC of behaviour change, in which: 'A' stands for attitude, 'B' for behaviour, and 'C' for choice" (Shove 2010: 1274).

Controversy aside, the point is well made: many existing approaches to sustainable consumption frame the problem as a matter of sovereign consumer behaviour and present the solution as one of influencing choices and persuading individuals to behave in ways that are less environmentally damaging (Southerton, Warde et al. 2004). There is a growing body of social science research on human action and consumption that lies outside of the 'dominant paradigms of economics and psychology' (Shove 2010, 1274). However, these alternative approaches remain at the margins when it comes to thinking about policies and interventions (see Warde and Southerton's Introduction to this volume for a discussion of the theoretical contrasts and tensions between different schools of thought for understanding human action).

In this paper we consider the practical potential of approaches framed and understood through theories of practice in order to escape from the idea that environmentally damaging forms of consumption are a consequence of individuals choosing to behave in environmentally damaging ways. Theories of practice focus on the things that people do and view unsustainable patterns of consumption as embedded in the social ordering of practices. In doing so, conceptual attention is paid to: habits (in the sense of self-actuating dispositions) and routines (as sequences of action); the dynamics of everyday life; social relations; material culture; socio-technical systems; cultural conventions; and shared understandings of cultural and technical competence.

It has, however, been suggested that theories of practice are of limited use to policy beyond 'taking social norms a bit more seriously as influences of behaviour' (Jackson 2005, 63). The tenor of Jackson's objection to practice-based approaches as a policy tool is as follows. First, they focus on complexity but are not yet supported by sufficient understanding of the dynamics and evoluation of social practices. Secondly, they only allow for 'behavioural' change within the collective development of social practices (Jackson 2005, 63), such that policy design and intervention cannot be conceived to be external to these processes. Jackson therefore concludes that 'the idea of using policy to influence social practice has

about it something of the impossibility of lifting ourselves up by our own bootstraps' (Jackson 2005, 63).

This is a critical challenge to practice theory and certainly some variants imply that processes of change are, effectively, internally contingent and therefore difficult to 'model' (see Schatzki 2012). Our response is twofold. First, ABC style interventions have yet to demonstrate social change of the scale and velocity demanded by the climate change challenge (Munasinghe et al. 2009). Second, complexity and the dynamics of social practices should not be ignored simply because they are too difficult to grasp within current policy frameworks (Shove 2010). To the contrary, practice-based approaches present an opportunity to re-think and re-frame the entry points, scope and orientations of policy initiatives. However the issue – as we see it – is that there is not yet an empirical base for exploring policies initiated in the light of theories of practice [1]. Accordingly, we take a cue from existing research that has analysed existing behaviour change interventions using theories of practice. For example in their discussion of the London Congestion Charge, Shove and Walker (2010, 474) note that it appears at first glance to be a 'thoroughly conventional case of deliberate policy steering towards a set of clearly defined goals'. However, their analysis goes on to show how the actual workings of the scheme are better explained in terms of the dynamics of interconnected practices. Similarly through his ethnographic study of a workplace behaviour change initiative – Environment Champions[2] – in process, Hargreaves (2011) argues that theories of practice provide a more robust account of how the intervention actually operated *in situ* than is offered by the framework within which it was most likely initiated.

Drawing on an earlier review of 'behaviour change' initiatives (Southerton et al. 2011), this article selects a number of illustrative cases of policy initiatives that address practices of mobility, eating and sheltering (particularly with respect to the thermal comfort of indoor environments). None of the cases discussed were initiated using a practice-based approach to understanding consumption, but features of each case are potentially instructive regarding how such an approach might be applied to policy design. While something of a crude exercise, it nevertheless demonstrates that it is less the specific policy mechanisms employed in current initiatives that are sub-optimal but rather more their reliance on isolated mechanisms directed at individual attitudes and actions. Taking the practice, as opposed to the individual actor, as the entry point for policy design re-frames how 'problems' are conceptualised and proposes a coordinated use of multiple policy mechanisms targeted at re-arranging both the organisation and performance of practices. Secondly, it suggests that, from a practice-based perspective, it

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1   There are however a growing number of studies that demonstrate the empirical purchase of practice theories (see Journal of Consumer Culture, 2011)

2   Run by the UK environmental charity Global Action Plan

may be more fruitful to think in terms of emergent and adaptive programmes of intervention. We also consider how 'sustainable practices' are conceptualised. At the very least, re-evaluating a range of existing behaviour change interventions illustrates how a practice-based approach to understanding consumption might contribute to, and reframe, policy initiatives. First, however, it is necessary to offer a brief sketch of practice theories and their implications for understanding processes of consumption.

Theories of practice and processes of consumption

Theories of practice encompass a diverse, and sometimes contradictory, range of insights from social and cultural theory that are held together by the ontological position that practices – as opposed to individuals, social structures or discourses – are the basic unit of social analysis. Practices are defined as routinized behaviours (Reckwitz 2002) – for example cooking, laundering, dwelling – each of which represents a co-ordinated nexus of doings and sayings (Schatzki 1996). At any point in space and time, there exists an established set of understandings, procedures and engagements that govern appropriate conduct within a particular practice (Warde 2005). In this view individuals are not the autonomous architects of their own actions but carriers of practice – practitioners – who routinely enact actions in accordance with shared understandings of normality and their subjective interpretation of the required forms of appropriate conduct necessary to perform any practice satisfactorily. It follows that the consumption of certain things and in certain ways occurs within and for the sake of practices (Warde 2005, 145). These insights signal an altogether different approach to sustainable consumption than is offered by the methodological individualism that underpins the portfolio models of action (see introduction to this collection) that characterise ABC style policy approaches. Here, ecologically damaging forms of consumption are not seen as a problem of individual consumer behaviour; rather they are understood as embedded within the prevailing organisation of practices. In turn, these are related to the collective development of what people take to be 'normal' ways of life (Shove 2003).

Practice-based approaches locate processes of change at two levels – at the level of the organization of practices as entities, and in the reproduction of practices as performances. Reckwitz (2002), for example, argues that practices as entities (that is: as recognizable, intelligible and describable) are configured or shaped by the many elements, interconnected to one another, that comprise the conditions of existence for a practice. For him, these elements include:

'[f]orms of bodily activities, forms of mental activities, 'things' and their use, a background

knowledge in the form of understanding, know-how, states of emotion and motivational knowledge' (Reckwitz 2002, 249)

It should be noted that there is no single typology of the elements that configure practices. However the most frequently cited are: cultural conventions, images, meanings and representations; objects, materials and technologies; normative understandings of competent performance; social and economic institutions and; spatial and temporal organization (see, for example, Warde 2005; Shove and Pantzar 2005; Southerton 2006; Shove et al. 2012). The arrangement of these 'elements' configures both how practices are conducted and how they are rendered identifiable (as entities) to practitioners and non-practitioners alike.

Practices also exist as performances: it is through the 'doing' of practices that the pattern provided by the practice as entity becomes meaningful and the entity is reproduced or otherwise modified. In this respect, practice-based approaches can be regarded as 'meso' level analytical constructs. A focus on practices as entities draws attention to a range of relatively stable elements that configure (at a macro level) blocks and patterns of action, while a focus on practices as performances draws attention to the (micro-level) production and reproduction of the 'doings' of daily life. It is this recursive interaction (between entity and performance) where the dynamics of reproduction and change are located. On the one hand, change occurs at the level of re-ordering the elements through which practices as entities are arranged: a shift in the ordering of practices as entities leads to changes in the ways that practices are performed. On the other hand, the reproduction of practices (as recognisable entities) is reliant on practitioners continuing to enact or perform them in particular ways and knitting together the various constituent elements in the course of their everyday lives. To borrow an example:

> '[i]n washing clothes every day, people keep a specific formulation of laundering alive […] Daily laundering becomes normal, but only so long as sufficient numbers of carriers continue to reproduce it in this fashion.' (Shove 2010, 1279)

In this respect, practitioners can be seen as the 'carriers' of practice (see Shove's contribution to this volume for further discussion). However, while practices are often performed consistently and faithfully (routinely and habitually) across space and time (and so reproduced) practitioners can 'adapt, improvise and experiment' with ways of doing and, therefore, the performance of practices also 'contain the seeds of constant change' (Warde 2005, 141). It is through performances – 'doings' – that practices as entities are reproduced, modified and changed.

In its focus on practices as the principal unit of analysis, a practice-based approach presents a strong critique of the methodological individualism that features in portfolio models of action. This does not, however, delete the individual from

social scientific enquiry. Rather, a practice-based approach presents the individual as practitioner, sitting at the intersection of practices. By extension, patterns of consumption reflect the 'sum total' - or unique crossing point - of the practices in which an individual engages. In this respect, practice-based approaches treat individual actions as units of empirical observation, rather than as units of conceptual explanation. For example, a focus on patterns of consumption can yield insights into the social ordering of practices as entities as well as changing performances of practices over space and time (see for example Warde et al. 2007 on food consumption). Similarly, examining volumes or patterns of time allocated to particular activities provides some indication of variations of practitioner commitment and the multiplication, diversification or decline of a practice (see for example Cheng et al. 2007 on the decline of the family meal).

Bringing this back to a discussion of policy design, it follows that the unit of analytic foci for understanding change should be directed towards practices as opposed to the discretions of the individual actor or sovereign consumer. In the section that follows we re-interpret a number of 'behaviour change' policy initiatives in light of the position set out above and in doing so, give some thought to what it might mean to treat social practices (as opposed to individual behaviours) as the basic unit of policy intervention.

Re-interpreting 'behaviour change' policy initiatives through a practice-based perspective

To illustrate the scope for applying a practice-based approach and how it might re-frame policy initiatives and interventions, this section discusses a range of policies explicitly directed at behaviour change.[3] This draws from the 'International Review of Behaviour Change Initiatives' that was carried out on behalf of the Scottish Government in which we examined thirty cases to assess the orientation and range of interventions that have been introduced, across the world, in the last five years (see Southerton et al. 2011 for further details). The vast majority of these initiatives were primarily conceived of as attempts to change the behaviour of autonomous consumers – whether by providing economic incentives, correcting information deficiencies, seeking to re-frame attitudes, or removing the barriers that individuals might face in seeking to change their behaviour. In what follows, we provide an overview of a few cases that relate to the broadly defined practices of mobility, eating, and sheltering (particularly related to thermal comfort). For each example

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3   We acknowledge that in our discussions we make reference to behaviours, although it is slightly misleading to talk about 'behaviour' in light of our theoretical orientation towards practice (Shove 2010). However, in order to engage with relevant policy debates, it is necessary to use the language in which these issues are currently discussed, which is that of behaviour and behaviour change (see also Hargreaves 2011).

we re-consider the case in relation to practice-based approaches to the formation and reproduction of what people do. It is not our intention to systematically evaluate the initiatives that we discuss; less still do we wish to dismiss them with regards to how much they resemble the so-called ABC of climate policy. Rather the objective is to highlight aspects of each case which might be interpreted as consistent with insights from theories of practice and pick out key themes (discussed in section 4) relevant for policy-related orientations and interventions .

Mobility

Regarding mobility, behaviour change initiatives are overwhelmingly targeted at encouraging people to switch from the private car to public transport (usually public buses), to bicycles and to walking. Many such cases were oriented toward incentivising such a switch through economic measures. A good example is Thøgerson's study (see Thøgerson's contribution to this volume) which was conducted as part of the Danish Environmental Research programme and involved 400 car-driving commuters being issued with free one-month bus passes. While this initiative reported significant increases in the number of journeys made by bus rather than car during and immediately after the period of study; it also appeared that many participants eventually and ultimately reverted back to using their cars. While this approach is suggestive of seeking to incentivise individual behaviour, Thøgerson suggests that these mechanisms will be more effective in fostering longer term changes if they are targeted at particular moments when habitual practices (the journey to work) are most likely to be subject to reflexivity. He cites a scheme operated by the Centre Area Transportation Authority (CATA) in Pennsylvania, which targeted households who had recently moved into a new neighbourhood and offered free bus passes for a trial period alongside information about bus stops and services. CATA did not directly evaluate the success of the scheme, however they did report a sustained and significant increase in bus passenger numbers. Effectively, this initiative targeted a moment of de-routinisation in an effort to reconfigure and re-routinise (Spaargaren and Van Vliet 2000) travel practices in a more environmentally friendly register. This case is instructive because the performances of practices appear more open to change at moments of life-course transition when it would seem the potential exists to disrupt their reproduction .

Practice-based approaches to changing performances and doings, however, place a significant degree of emphasis on intervening in the infrastructural and material organisation of practices as entities. Three cases stood out in doing just this.

The first case is the substantial investments that the city of Bogotá, Colombia, has made in a Bus Rapid Transit (BRT) system. This involves dedicated bus lanes

with feeder routes into the main system; terminals that allow for quick and easy boarding and ticketing; frequent and high capacity buses and an organisation structure that allows for flexible and reliable scheduling. Consequently, bus travel has become a quick and reliable alternative to car travel and this inititive is estimated to be responsible for saving 287,000 tons of CO_2 emissions annually. The BRT has gone hand in hand with the expansion of Bogotá's cycle network which has made cycling safer and easier. In turn, the percentage of residents using bicycles doubled between 2000 and 2007 with an estimated annual saving of 6,500 tons in CO_2 emissions.

Second is the Barclays Cycle Hire scheme in London, which was modelled on the successful Vélib scheme in Paris. This scheme was launched with the objective of encouraging cycling for short journeys in and through the centre of the city. Users register with Transport for London (TfL) and are issued with a key that provides access to 5,000 bicycles that can be picked up and dropped off at 340 docking stations across a 17 square mile area of central London. Members pay an access fee of £3 and then they pay for the amount of time that they use the bicycle, the first 30 minutes of any journey being free. TfL is responsible for maintaining the bikes and the day-to-day running of the scheme. This case is instructive insofar as it changes infrastructural arrangements in order to shift the provisioning and co-ordination of mobility practices. Additionally it can be interpreted as addressing cultural representations of practices of mobility insofar as its docking stations are highly visible (as is its sponsorship by Barclays bank) and its blue bicycles are striking, representing a strong symbolic commitment by metropolitan governments to tackle environmental problems and thus seek to challenge the meanings and images of mobility in urban spaces. Taken together, this example can be viewed as addressing at least two of the elements that coordinate practices –material infrastructures and cultural representations. Further, there is potential for the scheme to enhance the popularity of cycling more generally as users transfer newly developed competencies for short duration rides into a more dedicated interest in cycling beyond the scheme itself.

The third case focuses on how the practice of driving is performed, rather than seeking to shift the mode of mobility. In Portland, Oregon, an effort was made to reduce the amount of petrol used by motorists. Rather than providing information on eco-driving techniques, the initiative targeted the timing of traffic signals such that less petrol was used in idling or accelerating. It is reported to have brought about annual savings of 15,460 tons of CO_2 emissions and it did so by using technology to re-script the ways in which people drive[4]. This case is instructive in that it uses technology to alter the practice of driving rather than

4   http://t4america.org/blog/2010/10/13/smarter-transportation-case-study-5-traffic-signal-optimization-portland-oregon/ (accessed: 7/2/2012)

relying on voluntaristic behaviour changes on the part of individual drivers. It would be very difficult for drivers not to perform it in accordance with the rules entailed by the technological intervention and, as such, it recalls similar initiatives that have sought to re-configure driving practices to improve road safety (traffic lights, zebra crossings, road bumps etc.).

Eating

A practice-based approach to developing more sustainable forms of food consumption requires a focus on the systems of food provision and recognition that there are many interconnected practices that make up and contribute to the practice of eating. Such inter-connected practices include acquisition (where, when and how people acquire food), food storage, methods of cooking and food preparation and, the ways in which surplus and discarded foodstuffs are disposed of. It follows that efforts to develop more environmentally sustainable eating practices require interventions that address the inter-connected activities that together form the practice. This, however, is seldom the case, with many existing initiatives focusing on specific behaviours in isolation. They include, for example: the promotion of, or dissuasion from, particular foodstuffs (e.g. red meat, organic foods); product substitutions (e.g. local for non-locally sourced foods, tap for bottled water); efficiencies in the domestic provision of foodstuffs (such as using pans with lids on); and informational campaigns to reduce food waste (such as giving advice on how to cook with leftovers).

There are, however, some cases that pay attention to the inter-connections between the many aspects that relate to the performance of eating as a practice. An example is the 'New Nordic Diet' programme which is attempting to make Danish patterns of food consumption more sustainable by facilitating a shift away from the Mediterranean diet (and its reliance on imported foodstuffs) in favour of Nordic (so local and seasonal) foodstuffs. This initiative plans to make use of celebrity chefs, the establishment of Nordic restaurants and media exposure in order to shift collective understandings of what constitutes 'good Danish food'. Additionally there are plans to produce recipe books and fund cookery lessons, which can usefully be interpreted as an intervention to ensure that the requisite skills and competencies are available for these new Danish food practices to take hold. Interpreted through a 'practice-based' analytical lens, this initiative seeks to shift some of the elements that coordinate the practice as an entity. While only implied in the programme, it is hoped that the attempt to re-arrange Danish eating practices towards the Nordic diet will consequently provide the necessary impetus for the development of a fledging infrastructure of locally provisioned foodstuffs that will be required for widescale appropriation of these new dietary practices.

It is precisely this latter focus that concerns the case of Food New York City (Food NYC). Food NYC presents a sustainable food programme as a blueprint (as opposed to a commissioned programme at the time of writing[5]) for re-arranging the inter-connected activities that configure eating practices. This 'blueprint' presents a co-ordinated framework of action across the ways in which food is provisioned and consumed. Rather than positioning 'consumer behaviour' as the route to sustainable food consumption, it recognises the need for simultaneous interventions in the production, distribution, storage and retail of food. Allied to this, it suggests that initiatives to change food practices in New York City will have to be taken across public, private and voluntary sectors. What is of particular interest is that the report calls for the creation of a dedicated administrative body (an Office of Food and Markets) to co-ordinate these various measures – effectively setting up a public body to coordinate the entities through which eating practices are organised.

Shelter and comfort

Many initiatives related to reducing domestic energy consumption or shifting it toward renewable alternatives, seek to address practices related to sheltering (or the use of buildings). With respect to energy used for heating and cooling the built environment, such initiatives can be viewed as essentially dealing with issues of thermal comfort (Shove 2003). Of particular note is the Cool Biz initiative (see Shove et al. 2012 for a further discussion), that was instigated by the Japanese Ministry of Environment in 2005 to reduce energy use in government buildings by setting air conditioners at no lower than 28°C throughout the summer months. To make this more comfortable for workers, a new dress code was instituted in which ties and blazers were replaced with lightweight summer clothing made from 'breathable' fibres. In order to promote and normalise this dress code, the Ministry worked with designers and retailers to develop appropriate attire as well organising fashion shows in which high profile ministers and attractive young people modelled the garments. This case is instructive because in addition to a direct intervention in the material infrastructures of thermal comfort, the initiative effectively sought to shift the cultural conventions of appropriate workplace clothing, making it culturally acceptable to wear smart-casual as opposed to formal office clothing. The Ministry's estimates (which of course needed to be treated with caution) suggest that this initiative was incredibly successful insofar as it has brought about a 1.14 million ton reduction in CO_2 emissions.

It is also important to recognise that in seeking to make everyday lives less resource intensive it is not always necessary for 'consumers' to radically change their 'behaviours'. Rather, interventions in practices related to the maintenance of building

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5   http://www.mbpo.org/release_details.asp?id=1496 (accessed 7/02/2011)

spaces and structures can also have important effects. The RECO (Residential Energy Conservation Ordinance) in Berkeley, California, is a city law that requires residential buildings to meet certain energy and water efficiency requirements when they are sold or renovated. RECO targeted the material infrastructure of the household and legislated to improve the environmental performance of buildings such that reductions in energy and water consumption arose regardless of the 'behaviours' undertaken within the home. RECO is reported to have brought about significant reductions in gas, electricity and water consumption[6] and provides a useful illustration of how interventions in the institutional organisation of practices – in this case home maintenance and renovation practices – can have important and positive implications for the resource-intensity of everyday life.

Key themes for practice-based policy initiatives

While the above examples present a highly selective and diverse set of 'behaviour change' initiatives that were not designed or inspired by a 'practice-based' approach, re-interpreting them through this lens is instructive. Taking the 'practice' as the entry point for an intervention has the effect of re-orientating questions of policy design – moving away from thinking about how to change the behaviour of individuals and towards thinking through how practices are performed and coordinated as entities. The cases presented raise a number of issues that hint at more general issues associated with 'behaviour change' policies from a practice-based perspective:

Conceptualising sustainable practices

From the above, it can be noted that some policies can be interpreted as seeking to improve the 'eco efficiency' of practices without requiring too much in the way of behavioural change on the part of practitioners. In the case of RECO, for example, existing practices of dwelling and shelter were modified by targeting particular moments of home maintenance and renovation in order to improve the environmental performance of the buildings in which people live. While the initiative did not seek to change the ways in which households carry out the majority of their day-to-day domestic practices, it can be viewed as reducing the resource intensity of how these practices are consequently performed. Other policies can be interpreted as encouraging recruitment and defection from variously sustainable practices that already exist as entities. This is the case in the examples that seek to bring about modal shifts in forms of mobility or facilitate migration from 'Mediterranean' to 'Danish' eating practices. These initiatives do not endeavour

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6   Total savings between its implementation in 1987 and 2009 are estimated at 811,800 therms of natural gas, 1.32 MWh of electricity and 132 million gallons of water, see: http://aceee.org/sector/local-policy/case-studies/berkeley-california-residential-energy (accessed 7/02/2011)

to re-configure practices as entities; rather they focus on the reproduction of practices. As such they can be viewed as utilising a variety of mechanisms to bring about substitutions in the practices that practitioners perform in the anticipation that more environmentally sustainable entities (such as cycling) will flourish whilst others (such as private car use) languish.

In contrast, some policies can be viewed as addressing more explicitly the various components that co-ordinate and institute practices as entities. For example, the Cool Biz initiative can usefully be interpreted as seeking to change the socio-technical arrangements and cultural conventions that underpin an environmentally problematic practice (relating to the maintenance of particular levels of thermal comfort at around 22 ^{0}C). It is programmatic insofar as it tackles several elements (the use of technologies and buildings, the availability of clothing made from lightweight and breathable materials) that together create the practice (as entity) of cooling workplace environments at no lower than 28^{0}C. Further, in order to recruit practitioners to this performance it paid attention to notions of thermal comfort whilst circulating suitable meanings about particular garments in order to bring about shifts in cultural conventions with regards to normal and appropriate workplace attire. Allied to this, policies that are programmatic have the potential to exploit the interdependencies between connected practices. The case of the Food NYC proposal can be interpreted as recognising that the practice of eating is configured through a range of processes (production, distribution, retail) and across a range of spatially and temporally situated activities (eating at home, eating out, eating at work). Whilst not explicitly raised in the proposal, a practice-based approach would draw attention to the potential for targeting specific points in order to generate 'knock-on' effects elsewhere within the practice. So for example, if an initiative were to focus on the temporal ordering of food practices and institute some form of collective provisioning (such as having main meals at lunchtime in subsidised workplace canteens), then some of the issues that give rise to food waste in the home (such as the over provisioning of fresh foods that households then struggle to find a use for – see Evans 2012) might be overcome.

Challenges for developing effective interventions

A practice-based approach raises a number of critical questions about how best to develop effective policies for reducing the environmental impacts what people do. First, it notes that practices are configured through the intersection of multiple components and activities. In this view, interventions that are focused on isolated behaviours are likely to be of limited success if they do not address the other related elements of the practice. To see why this matters, consider the example of energy-saving light bulbs. In the UK, efforts to promote their purchase and use in place of standard bulbs have been very successful and this has brought about reductions

in energy consumption (DECC 2010). However the total energy use for domestic lighting has not decreased by the same amount because the savings made from straight substitutions between standard and energy-saving light bulbs have been offset by stronger and more persistent trends such as emerging tastes for ambient low-lighting or net increases in the number of light bulbs that European homes have in each room (Wilhite et al. 2000). Hence environmental impacts have not reduced significantly.

Allied to this, an argument can be made about the durability of behavioural changes. In the example of Danish commuters eventually reverting back to car-use after their free bus passes had expired, the initiative clearly didn't 'stick'. Even allowing for the potential that Thøgerson identifies for targeting moments of transition as a mechanism for disrupting existing habits and introducing more environmentally friendly ones; 'jolting' individuals into reflexivity is not altogether consistent with a practice-based approach to durable change. For a start, moments of transition are relatively infrequent and it is not necessarily easy to predict or locate individuals who are about to approach them. More substantively, existing practices as entities were not configured through these processes. For example, the emergence of the practice of daily showering (see Hand et al. 2005) cannot be attributed to individuals being jolted out of their weekly bath habits at a moment of transition. Durable behaviour change, then, requires the re-ordering of the multiple elements that configure practices as entities alongside sufficient numbers of practitioners performing these such that they 'stick' as normal and appropriate . The examples of Bogotá's BRT and London's cycle hire scheme can be interpreted as going some way towards doing this insofar as they seek to re-configure material infrastructures and/or shift cultural representations of urban mobility.

An obvious issue is that it is not easy to predict the effects and workings of an intervention or initiative. This issue is particularly pronounced from the perspective of practice-based approaches and their attendant focus on multiplicity and interconnectedness. Of course, these consequences can be both negative (as in the case of light bulbs) and positive (as in the potential for the London cycle hire scheme to shift cultural understandings of mobility more generally) in terms of facilitating shifts towards more sustainable ways of living. The fundamental challenge here, however, relates to the distinction between practices as entities and practices as performances. For instance, a policy could be designed that seeks to influence the availability and circulation of the elements that practice-based approaches would recommend as germane to the development of sustainable practices as entities. However as already noted, the actual workings of an intervention depend on the collective responses of practitioners and these are difficult to anticipate by virtue of the 'emergent and uncontrollable trajectories' (Shove and Walker, 2010: 475) of practices. For example, even if the Food NYC proposal is successfully initiated, its consequences in terms of sustainable food consumption will rely on New Yorkers

engaging with the new elements that it makes available and knitting them together such that they take hold as a new way of doing things. In turn this will rely, amongst other things, on the elements of practice that are already in circulation (which have a spatial and temporal reach that far exceeds contemporary interventions in the New York food system), the extent to which these new forms of food consumption fit within existing routines (cooking and eating, but also working and travelling) and the material fabric of everyday life.

Emergent programmes of practice based interventions

Having acknowledged that processes of change are difficult to model and that desired outcomes from a practice-based intervention cannot be guaranteed, it is tempting to concede that, perhaps, this approach is of limited use to policy makers. Certainly it is not difficult to see why the ABC framework is attractive, for it suggests relatively simple mechanisms to affect behaviour change: do X and you should get Y. However it should be noted that the complex, contingent and emergent nature of change is not unique to practice-based approaches; they are simply more willing to acknowledge these problems and confront the reality that policies for changing habitual behaviour are not easy to design. Furthermore, we contend that they actually open up the possibility of responding to these challenges, taking them seriously and thinking differently about issues of policy design.

Taking the practice, as opposed to the individual actor, as the entry point for policy design the focus immediately shifts away from thinking about single types of intervention that are targeted at isolated activities or single elements. Instead, the emphasis is on simultaneously addressing the elements that coordinate any practice as an entity and the way it is performed. This calls for programmatic policy responses that are specific to (sets of) interrelated practices. At the time of writing, the UK government has policies to support car manufacturing whilst simultaneously undertaking measures to reduce private car use. It is not difficult to see how success in the latter can easily be offset by trends brought about by the effects of the former. By contrast, the example of Cool Biz provides a neat – albeit specific – illustration of a co-ordinated and consistent intervention, as does the programmatic thinking inherent in the Food NYC proposal.

Transitions in practices cannot be fully planned, predicted and managed. Further, it is not feasible to fully map out entire programmes ahead of implementation and expect them to deliver predictable changes. In actuality, the effects of an intervention will be reliant on the ways in which it intersects with the existing elements and emergent properties of the practices that it seeks to re-configure as well as collective practitioner responses to these unfolding dynamics. This calls for policy makers to think in terms of emergent programmes that are sensitive to the ways in

which practices evolve over time (and across space). The effectiveness of such an approach will be enhanced when it can be based on cumulative learning about the practice in question, the ways in which it has evolved historically in the past and the sorts of interventions that have previously been used to try to facilitate change. There are of course limits to this cumulative learning in that lessons may not readily transfer from one setting to another. Nevertheless, it is reasonable to assume that these understandings would be instructive, say, for thinking about subsequent and contingent policy options that can be deployed in order to respond to the unfolding of both the practice and the programmatic intervention. Efforts to improve road safety over the last several decades are instructive as an example of an emergent and multifaceted programme of interventionswhich has clearly delivered significant progress in the UK. It would be impossible to attribute improvements to any single intervention or indeed to any one type of intervention. There have been informational campaigns, major safety related innovations by car manufacturers, investments in road infrastructure and technologies for 'scripting' safer driving, regulations and the policing of those regulations. To give a more specific example, it is clear that the wearing of seatbelts took considerable time to become normalised from their highly contested introduction and this involved the whole suite of interventions described above. As such, our conjecture is that it is the mix and persistent sequence of interventions that has made the habitual practice of driving safer. Efforts to do so have become increasingly institutionalised with dedicated governmental and non-governmental bodies assuming direct responsibility for improvement. There was never a master plan, set out in stone c. 1950, setting out the entire future programme. Rather, the last 60 years can be seen as an emergent programme full of twists and turns, with new initiatives deployed in the context of contemporaneous understandings of the safety problem and the practice of driving.

Summary and discussion

In this paper we have discussed how 'behaviour change' policies that seek to address habitual everyday actions might look when they are approached from practice-based perspectives. Drawing on theories that take practices as the basic unit of analysis, we started with the idea that these might also be the most appropriate 'unit of intervention' for initiatives in support of sustainable consumption. Attention was drawn to the importance of targeting the multiple activities and components which together configure practices as entities, alongside recognising the various ways in which practices are reproduced through performances. The implications of this were shown to be important in terms of how sustainable practices are conceptualised and the challenges that this poses to durable changes in behaviour. Crucially, it lead to the suggestion that there is a need for programmatic policy responses that are co-ordinated, consistent and focused on specific sets of interrelated practices. Allied to this, it was suggested that these programmes should be flexible enough

to adapt to the dynamics and contingencies of practices (and interventions) as they unfold. Whilst these points are necessarily speculative and tentative, they nevertheless suggest that the practical significance of practice-based approaches is not exhausted by simply 'taking social norms a bit more seriously as influences of behaviour' (Jackson 2005: 63). Regarding Jackson's intimation that practice theories are too focused on complexity and emergence to be of direct relevance to policy making, it has been argued here that these difficulties need to be confronted head-on if there is to be any chance of designing effective policies for behavioural change.

Finally, Jackson's second reservation about using practice-based understandings as an approach to policy design relates to the idea that changes are thought to only come from within the processes through which practices develop. This does not, however, eliminate the possibility of policy makers and governments intervening to facilitate transitions towards more sustainable practices. It simply means that '[i]nterventions go on within, not outside, the processes they seek to shape' (Shove, 2010, 1278). If the preceding analysis holds then this actually offers a unique role for policy makers in that programmatic and adaptive measures are likely to be taken across the range of sectors, institutions and processes that together configure particular practices. The potential for policy makers, then, lies in their ability to set the agenda, co-ordinate the various actors involved in the process of transition, provide the requisite framework (legislative and financial), and mobilise subsequent measures in response to the emergent and unfolding forms of variously sustainable practices as they change across time and space.

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