

Hargreaves, Tom; Haxeltine, Alex; Longhurst, Noel; Seyfang, Gill

Working Paper

Sustainability transitions from the bottom-up: Civil society, the multi-level perspective and practice theory

CSERGE Working Paper, No. 2011-01

Provided in Cooperation with:

The Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia

Suggested Citation: Hargreaves, Tom; Haxeltine, Alex; Longhurst, Noel; Seyfang, Gill (2011) : Sustainability transitions from the bottom-up: Civil society, the multi-level perspective and practice theory, CSERGE Working Paper, No. 2011-01, University of East Anglia, The Centre for Social and Economic Research on the Global Environment (CSERGE), Norwich

This Version is available at:

<https://hdl.handle.net/10419/48796>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

2011
01

**Sustainability transitions from the
bottom-up: Civil society, the multi-level
perspective and practice theory**

**Tom Hargreaves, Alex Haxeltine, Noel Longhurst and
Gill Seyfang**

CSERGE Working Paper 2011-01



CSERGE

Centre for Social and Economic Research on the Global Environment

**SUSTAINABILITY TRANSITIONS FROM THE BOTTOM-UP: CIVIL SOCIETY, THE
MULTI-LEVEL PERSPECTIVE AND PRACTICE THEORY**

**Tom Hargreaves*, Alex Haxeltine, Noel Longhurst and Gill Seyfang
School of Environmental Sciences
University of East Anglia
Norwich, NR4 7TJ**

*** Corresponding author: tom.hargreaves@uea.ac.uk**

ISSN 0967-8875

Abstract

This paper aims to build on an emerging trend in sustainability transitions research towards better understanding the potential roles played by civil society groups in transitions alongside state and market actors. Through the use of two empirical examples (a local and organic food producer cooperative called 'Eostre Organics' in East Anglia, UK, and the pro-environmental behaviour change programme 'EcoTeams'), the paper argues that whilst the Multi-Level Perspective on sustainability transitions is a valuable analytical tool to help conceptualise and distinguish between different kinds of civil society activity, its focus on single regimes and on novelty rather than normality means it cannot adequately capture the range or scope of civil society action. Here, we suggest that recent developments in Social Practice Theory, which explicitly address these concerns, offer a way to broaden and improve analyses. This leads us to re-examine a framework originally presented by Elizabeth Shove which draws attention to the connections and crossovers between these two theoretical approaches. The paper closes by exploring the gaps, limitations and implications of this framework for future research on the role of civil society groups in sustainability transitions.

Keywords: sustainability transitions, civil society, the multi-level perspective, social practice theory

1. INTRODUCTION: CIVIL SOCIETY AND SUSTAINABILITY TRANSITIONS

There is a deep and implicit link between the growing calls for transformational change in societal systems (e.g. food, energy, water, transport etc) in response to environmental and social problems, and the actions of civil society groups. For many in the UK at least, thinking of radical environmental and sustainability action calls to mind images of Greenpeace activists closing down power stations or the recent Climate Camp protests, rather than of businesspeople reaching decisions in boardrooms or politicians signing international treaties. Nonetheless, within academic work on such sustainability transitions there has, to date, been a tendency to focus on state and market actors and to neglect the potential roles that civil society actors might play in such processes. This paper aims to help redress this balance.

In a recent paper, Smith (forthcoming) employs the Multi-Level Perspective (MLP) on sustainability transitions to help conceptualise and distinguish between the different ways that civil society groups might be engaged in sustainability transitions. This is an important contribution, but we suggest that by relying solely on the MLP (at least as it is currently conceived), Smith's analysis cannot fully capture the range or scope of civil society action. In particular, it cannot see how civil society action cuts across multiple regimes and systems and attempts to forge new connections between them, nor can it adequately characterise how civil society groups are as likely to try and challenge unsustainable forms of normality as they are to promote and generate sustainable novelties. Accordingly, we aim to extend Smith's framework to address these issues by introducing some recent developments in Social Practice Theory (SPT) that explicitly address these concerns (e.g. Shove, forthcoming). This leads us to re-examine an analytical framework originally presented by Shove (2003) that points towards the potential crossovers and connections between transitions in regimes on the one hand, and transitions in practice on the other.

The next section introduces the MLP and SPT in more detail and illustrates how each may be used to analyse civil society action for sustainability transitions. Section 3 then explores two empirical examples (an organic food producer cooperative called Eostre Organics, and the pro-environmental behaviour change programme EcoTeams) to show how, on its own, neither the MLP nor SPT can adequately explain the realities of civil society action. Accordingly, section 4 considers how the two approaches might be brought together by re-introducing an analytical framework originally presented by Shove (2003), and exploring its implications for future research on sustainability transitions. Finally, section 5 summarises the main contributions of the paper.

2. CIVIL SOCIETY, THE MULTI-LEVEL PERSPECTIVE AND SOCIAL PRACTICE THEORY

2.1 The Multi-Level Perspective and Civil Society

Geels (forthcoming) describes the MLP as a theory that conceptualizes the overall dynamic patterns observed in socio-technical transitions:

“The MLP views transitions as non-linear processes that result from the interplay of developments at three analytical levels: niches (the locus for radical innovations), socio-technical regimes (the locus of established practices and associated rules that stabilize existing systems) and an exogenous socio-technical landscape...These levels ‘refer’ to heterogeneous configurations of increasing stability, which can be seen as a nested hierarchy.” (Geels, forthcoming, no page)

As discussed elsewhere in this Special Issue, the MLP describes how the three levels interact dynamically in the unfolding of socio-technical transitions. To date, the MLP has been used extensively to interpret the dynamics of historical transition processes (e.g. from horse drawn carts to cars [Geels 2005], from cesspools to sewer systems [Geels 2006], or from crooner music to rock ‘n’ roll [Geels 2007]) and has also been applied to contemporary sustainability transition processes, often through attempts at Transition Management (e.g. Elzen et al 2004). It provides a relatively simple but highly flexible heuristic framework for exploring how systemic transitions may come about.

A common critique of the MLP is that it inadequately conceptualises actors and agency, being instead too functionalist, rationalist and structural in its approach (e.g. Smith et al 2005; Genus and Coles 2008). Whilst we agree with Geels (forthcoming) that this criticism is misplaced - the MLP is in fact “shot through with agency, because the trajectories and multi-level alignments are always enacted by social groups” (Geels, forthcoming, no page) - we would also draw attention to an overemphasis in existing MLP-based research on market and state-based actors and a general neglect of those acting within civil society arenas (Seyfang and Smith 2007).

Following Smith (forthcoming) we understand civil society as “an arena that encompasses the collective activities by which associations of people develop and assert shared values, identities and interests, without direct recourse to market transactions or the authority of the state in the first instance” (Smith, forthcoming, no page)¹. Whilst state and market actors will undoubtedly play crucial roles in sustainability transitions, there is growing recognition that community-level action for sustainability is a necessary and potentially powerful aspect of change, in part due to the local knowledge it captures, the social contexts for change it generates, the immediacy of its impacts, and in helping to democratise decision-making processes (Mulugetta et al 2010). Recent studies, for example, have examined civil society action in the areas of alternative technology (Smith 2006b), eco-housing and eco-villages (Avelino and Kunze 2009; Seyfang 2009); complementary currencies (Longhurst, forthcoming) organic and local food systems (Smith 2006a); and energy (Geels and Verhees, forthcoming; Seyfang et al 2010; Hielscher et al 2011).

As figure 1 illustrates, Smith (forthcoming) utilises the MLP to analyse civil society efforts to bring about sustainability transitions in the energy system. Following the three levels of the MLP, Smith (forthcoming) identifies three distinct ways in which civil society groups can intervene in sustainability transitions: first, through generating novel, sustainable alternatives within the niche; second, through various efforts to

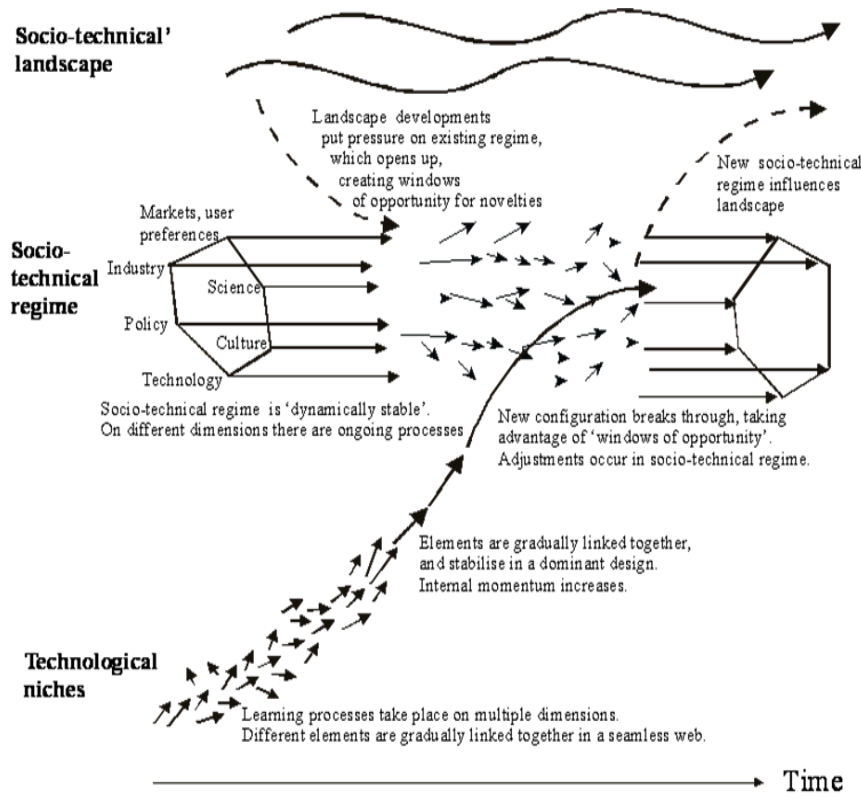
¹ Like Smith (forthcoming), we also acknowledge the enormous diversity of civil society groups and that not all such groups are working towards sustainability goals. Our interest in this paper, however, is those that are seeking sustainability transitions.

challenge the status quo of the regime; and third, through longer-term efforts to shift landscape-level societal values.

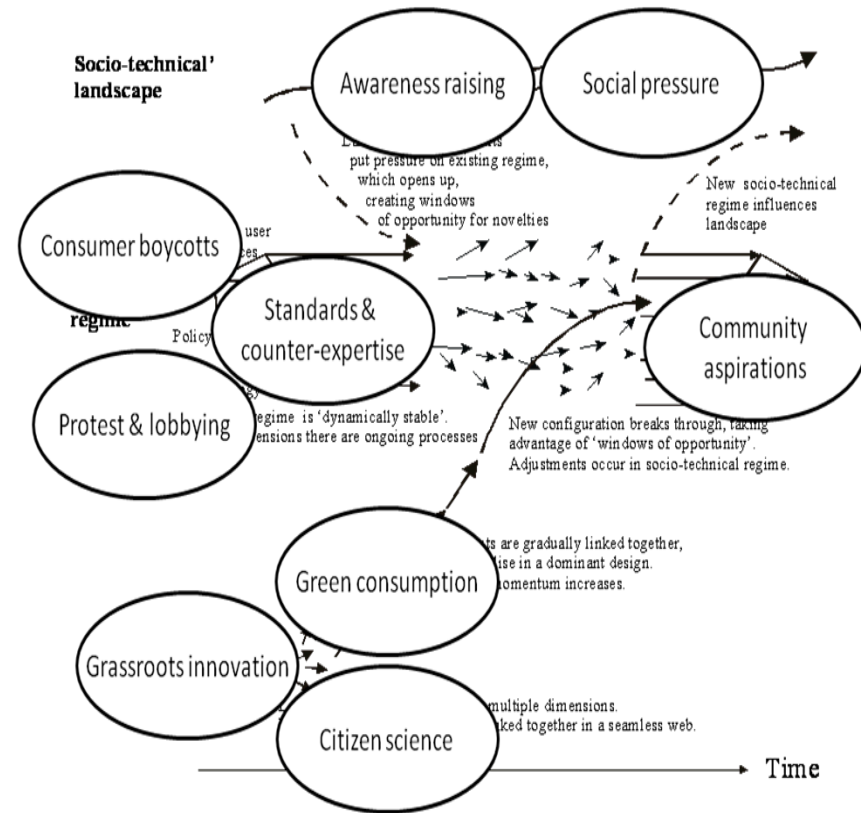
As this work shows, the MLP is a valuable analytical tool for understanding the potential roles that civil society groups may be able to play in sustainability transitions. Nonetheless, we feel that this analysis is limited in at least two important ways and, as such, fails adequately to characterise either the full range of activities performed by civil society groups or the full extent of the challenge they pose to conventional, regime-based ways of doing things. First, MLP-based analyses focus only on single regimes and systems (e.g. energy, water, transport, food etc.) whereas much civil society activity cuts across these regimes, linking them together in new ways and attempting to re-draw the boundaries around them. Further, and related to this, civil society groups are as likely to focus their efforts on changing systems and infrastructures of provision as they are to engage more directly with people's everyday practices. For example, civil society-led attempts to generate a sustainable food system may take food production methods (e.g. organic, fairtrade) as their starting point, but may also focus on everyday cooking practices (e.g. encouraging people to cook local and seasonal dishes or to put lids on pans whilst cooking to save energy), which in turn may implicate the transport, water and energy systems on which these practices rest. Second, where the MLP is valuable in helping to understand novelty and the generation of new innovations within niches, it has rather less to say about the changing dynamics of normal everyday life (Shove, forthcoming). Civil society groups, by contrast, appear to be as interested in generating novel bottom-up solutions to existing problems as they are in undoing and dismantling the unsustainable aspects of existing ways of doing things. As often as they may generate more sustainable transport options such as car sharing (e.g. Truffer 2003) for example, they are also likely to encourage people to reduce the amount they travel in the first place.

In summary, whilst an MLP-based analysis of civil society groups activities in relation to sustainability transitions is undoubtedly helpful, we suggest that the account it offers needs extending further to account for civil society group activities that cut across existing regimes and systems, that engage more directly with peoples everyday life practices, and which concentrate on normality as much as they do on novelty. Here, and as will be discussed in the next section, recent work on Social Practice Theory (SPT) is potentially helpful

Figure 1: Mapping civil society activity in sustainable electricity systems



Source: Geels(2002)



Reproduced from Smith, forthcoming, no page

2.2 Social Practice Theory and Civil Society

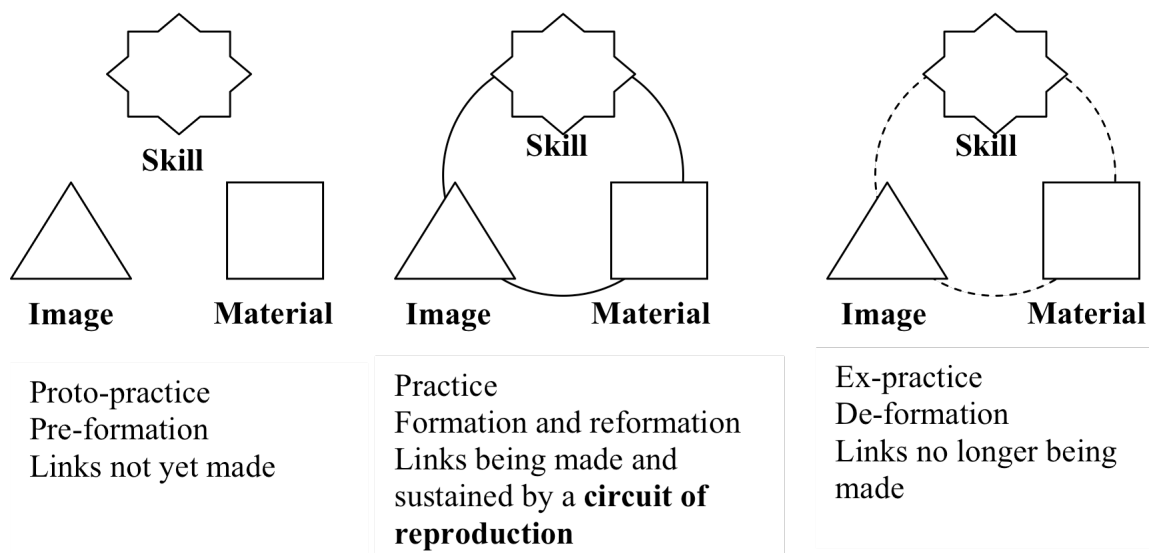
Whilst the MLP is concerned with transitions in sociotechnical regimes and systems, within SPT the focus of attention shifts to a different unit of analysis, transitions in *practices* (Shove, forthcoming). Schatzki (2002) distinguishes between practices-as-entities (idealized and abstract forms that are historically and collectively formed) and practices-as-performances (the grounded enactment of practices conducted as and amid everyday contingencies – see also Røpke 2009). The predominant focus within SPT, however, is on the ‘doing’ of the practices that make up normal everyday life, such as cooking, cycling, showering etc., on the elements of which they are comprised, and on the ways in which these practices are socially organised. In an oft-cited definition, Reckwitz (2002) suggests that a practice is:

“a routinized type of behaviour which consists of several elements, interconnected to one other: forms 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. A practice - a way of cooking, of consuming, of working, of investigating, of taking care of oneself or of others, etc. - forms so to speak a 'block' whose existence necessarily depends on the existence and *specific interconnectedness* of these elements, and which *cannot be reduced to any one of these single elements.*” (Reckwitz 2002, p249-50, emphases added)

Reckwitz’s emphasis on the elements of which practices are made has since been widely adopted. Whilst different theorists offer different lists of ingredients (for example see Gram-Hanssen 2010, p154 for a comparison of Schatzki, Warde, Shove and Pantzar and Reckwitz), for the sake of simplicity we adopt Shove and Pantzar’s (2005) version that sees practices as made up of Images (meanings, symbols), Skills (know-how, forms of competence) and Materials (artefacts, technologies) that are actively and recursively integrated through everyday performance (also see Pantzar and Shove 2010).

Shove and Pantzar’s version stresses that practices are stabilised (or changed) through their repeated and more or less faithful performances by practitioners. For example, in the case of showering, every time someone has a shower s/he combines the images (cleanliness, freshness), skills (how to use soap and wash oneself) and materials (water, soap, shower cubicle) that make up the practice of showering and, through enacting this practice-as-performance s/he either reinforces or modifies the links between the elements of showering as a practice-as-entity (cf. Shove and Walker 2010). Practices are thus formed, changed and ultimately killed-off as the links between their elements are made, maintained, challenged and broken. Accordingly, and as figure 2 depicts, it is possible to draw an analytical distinction between different stages in the life of a practice, from proto-practices in which the elements exist but are not yet integrated, through practices in which the elements are routinely combined, to ex-practices in which the elements have become disconnected from one another.

Figure 2: Proto-practices, practices and ex-practices



Reproduced from Pantzar and Shove 2006, p7

By implication, whilst the stability and reproduction of practices results from the repeated integration of elements, innovation in practices derives from the making and breaking of links between elements (Pantzar and Shove 2010). As Shove (forthcoming) acknowledges, however, most of the work on SPT to date has focussed on routines and the reproduction of practices rather than on the ways in which novel sustainable elements might be introduced or in which new and more sustainable configurations of elements might be generated. Pantzar and Shove (2010, p458) for example, highlight 3 distinct ‘circuits of reproduction’ through which practices are maintained and stabilised. The first circuit refers to how, despite their apparent autonomy, the elements of a single practice also appear to cohere and hold one another together. For example, particular materials (e.g. laundry liquid) may become closely associated with particular meanings (e.g. cleanliness) or skills (e.g. using a washing machine). The second circuit concerns the relations between whole practices as they come to form interconnected practice complexes or ‘systems of practice’ such as the combination of complementary practices that occur in a single workplace or the relationship between driving practices and out-of-town shopping practices. Finally, the third circuit relates to the temporal dynamics and path-dependencies of practice, exploring how current practices evolved out of past ones and contain the seeds of future practice. For instance, in the case of a single individual’s lifestyle, the practices she currently ‘carries’ (Reckwitz 2002) will shape the kinds of practice she encounters in her daily life, just as they will shape her perceptions of, and ability to take up new practices. These 3 circuits of reproduction thus emphasise the stability of practices and systems of practice, and the profound challenges likely to be involved in attempting to change them.

SPT thus offers a different way of interpreting civil society groups' efforts to bring about sustainability transitions. Here, rather than challenging regimes or generating new niches, civil society activity can be interpreted as attempts to intervene in the dynamics of practice. For example, consumer boycotts and buycotts seek to change the *materials* of which routine practices are comprised, awareness-raising campaigns can be read as efforts to integrate new *images* into existing practices (e.g. Gram-Hanssen 2010), whilst more in-depth behaviour change initiatives such as EcoTeams or Carbon Reduction Action Groups (CRAGs) might seek to change multiple elements simultaneously, to experiment with new kinds of integration, new practices-as-entities, and/or to generate new practice complexes as part of more sustainable lifestyles (e.g. Hargreaves 2011). Importantly, whilst civil society groups can generate and circulate the elements of practice in these ways, and can promote new combinations of elements and forms of integration, practitioners themselves have an equally vital role to play, for it is they who must ultimately experiment with and combine the elements in the course of their daily lives. In this way, SPT blurs conventional dualisms such as producer-consumer, supply-demand and innovation-diffusion because it reveals that "innovation in practice is always a collective accomplishment" (Pantzar and Shove 2010, p457) involving regular feedback between practitioners and those, such as civil society groups, market or state actors, who may generate and circulate new elements of practice.

SPT thus departs from and extends MLP-based analyses of civil society group activities in several ways. First, SPT focuses its attention on normality rather than novelty. Instead of examining single innovation trajectories, SPT emphasises the many dynamics and circuits of reproduction involved as the multiple elements of practice are integrated in specific performances of practice (Shove, forthcoming). This is a crucial addition to MLP-based analyses, but it is important to emphasise also that, as a result, SPT is not especially well-equipped to discuss the sources or emergence of novelty. Here, the single system focus and vertical levels of the MLP remains helpful. Second, by focusing on everyday doings, SPT calls into question the way in which boundaries are drawn around distinct systems and regimes. To use cooking as an illustrative example once more, where the MLP has variously been used to explore transitions in the energy (e.g. Raven 2006), food (e.g. Smith 2006a), water (e.g. van der Brugge et al 2005), and/or transport regimes (e.g. Geels 2005) each of which upholds multiple day-to-day practices, the single practice of cooking refuses to recognise these regime and system boundaries. As, in the making of a single meal, practitioners will draw upon, and thus reinforce or potentially challenge, all of these different regimes. Perhaps the most crucial distinction between SPT and the MLP, therefore, and the one that we will take further in the rest of this paper, relates to the horizontal nature of relations between practices by contrast to the hierarchical and vertical relations between the levels of the MLP. Whilst the MLP allows one to examine the emergence of novelty through the interactions between the vertically-ordered levels of niche, regime and landscape, SPT focuses attention instead on the horizontal dynamics of practices that cross-cut multiple regimes and systems as practices and their elements follow their circuits of reproduction.

3. CIVIL SOCIETY GROUPS AND TRANSITIONS IN REGIMES AND PRACTICES

This section will illustrate how each of the theoretical approaches discussed in section 2 may be applied to civil society action for sustainability transitions by drawing on two empirical examples: i) Eostre Organics (pronounced 'easter'), a local and organic food cooperative in the East Anglian region of the UK, and ii) the EcoTeams behavioural change programme, run throughout the UK by the environmental charity Global Action Plan. These two cases highlight the diversity of activities and scales of civil society action for sustainability transitions and the different ways in which they might be theorised. The Eostre Organics case is used to illustrate the utility of an MLP-based analysis of civil society action, before the EcoTeams example then does the same for SPT. In each case, we show how the empirical realities of the cases extend beyond the limits of each of the theoretical approaches applied in isolation. This leads us to explore, in section 4, how the two theories may be connected to offer a more far-reaching analysis.

3.1 Eostre Organics: A Civil Society-led Innovation in the Food System

Established in 2003 in Norwich, UK, Eostre Organics drew together 16 small-scale, organic food producers, many of whom had previously suffered bad experiences dealing with the supermarket supply chain (e.g. vulnerability to low and fluctuating prices). By coordinating themselves within a formal co-operative structure, these local growers aimed to by-pass the mainstream supermarket-driven food system by selling directly to local schools, businesses and hospitals and, through market stalls and mixed fruit and vegetable boxes delivered on a weekly basis, direct to individual consumers throughout the region. Eostre's stated aims were to generate a 'fair, ecological and co-operative food system' that would deliver high-quality organic, local and seasonal (where possible) or fairtrade foods to consumers of all incomes by encouraging cooperative working between its members, rendering food supply chains transparent, minimising packaging, waste and transport, and raising awareness of the environmental and social aspects of food production (Eostre Organics 2004, and see Seyfang 2009, p92). By 2004, Eostre supplied produce to 13 box schemes, 15 market stalls, 9 cafés, pubs or restaurants, and 12 shops. It had also made inroads into public sector catering through local schools, hospitals and prisons. This early success resulted in Eostre gaining publicity and profile through celebrity chef Jamie Oliver's 'School Dinners' TV programme that sought to improve the quality of school dinners across the UK, and winning the Social Association's 'Local Food Initiative of the Year' award in 2003 (see Seyfang 2009).

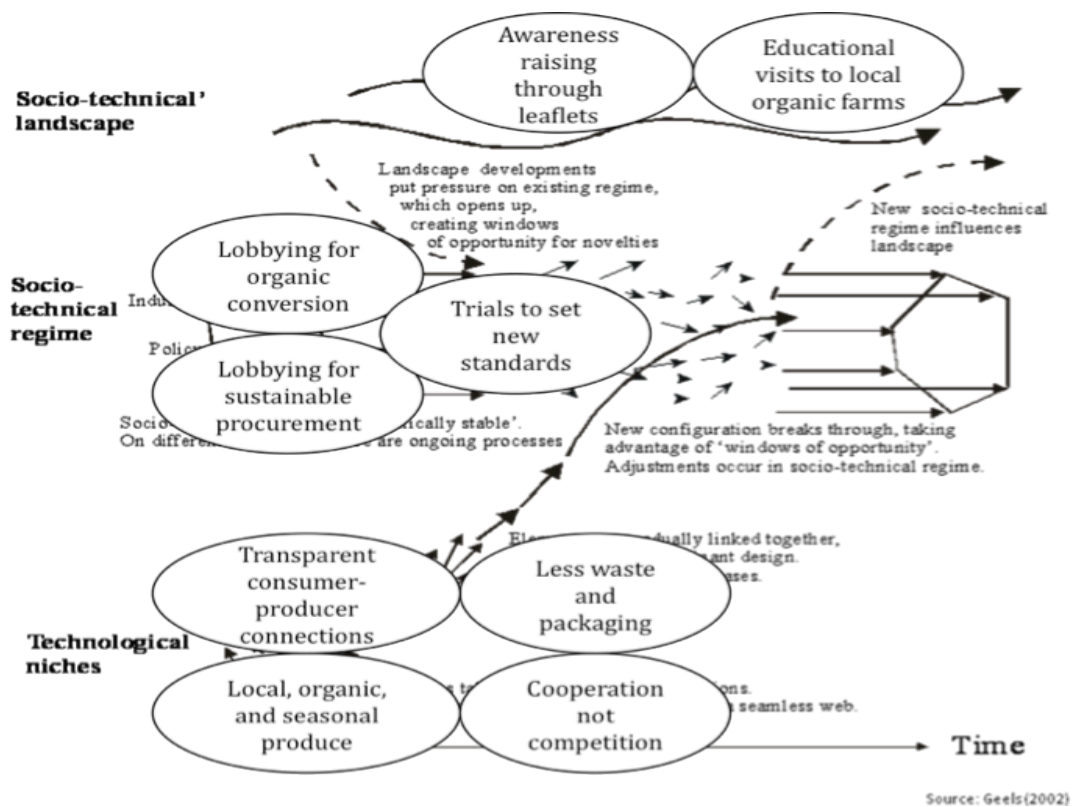
Following Seyfang (2009) it is possible to use the MLP to analyse Eostre as part of a sustainable food niche aiming to bring about a sustainability transition in the mainstream, supermarket driven food regime (see figure 3). As part of a sustainable food niche, Eostre can be seen as a small-scale sociotechnical experiment (cf. Verheul and Vergragt 1995; Brown and Vergragt 2008) that aims to generate lessons about how food might be grown and distributed in novel ways, with sustainability values rather than the profit-motive as its driving principles. As well as growing food organically and locally, Eostre also sought to generate alternative retail systems, selling directly to both institutional and individual consumers as a means of increasing supply chain transparency and reducing food miles. In addition to generating a novel niche

alternative, Eostre also sought to challenge what it perceived as the unsustainable aspects of the mainstream food regime in various ways by, for example, working with its parent organisation East Anglian Food Link on lobbying activities to promote organic conversion and sustainable procurement, and also by working to set more demanding sustainability standards for more mainstream produce, for example by participating as a 'beacon of experience' in a trial aiming to supply school canteens with local food. Finally, Eostre also sought to influence landscape level societal changes by distributing leaflets and newsletters about organic, fairtrade and local food to customers, and by organising educational visits to organic farms in an attempt to normalise and spread sustainability values more widely.

As figure 3 shows, the MLP serves as a useful analytical tool to analyse Eostre as part of an innovative and radical sustainable food niche that was able to develop and learn through experimentation whilst protected by sustainability values in opposition to the perceived unsustainability of the mainstream food regime. Nonetheless, following its early success Eostre ran into a number of challenges, eventually ceasing trading as a cooperative in the last few years. For example, whilst Eostre won a contract to provide the visitor café at the new Norwich and Norfolk University Hospital, it was unable to supply patients (which would have been a major source of support) because the hospital was designed without its own kitchens forcing them to source cook-chill ready meals from central distributors. Further, beyond a few committed consumers – analysed by Seyfang (2009) as 'ecological citizens' – a survey of Eostre's customers found many who, despite wishing to support Eostre, could not access the market stalls which were only open during conventional working hours, or who were frustrated by a lack of choice in the produce available at the stall or in weekly fruit and vegetable boxes. Here, for example, one customer stated "I never know what the box will contain, it's a challenge to my cooking skills!" (Seyfang 2009, p104). Whilst, for this customer, this challenge was seen as a positive learning opportunity, it is easy to imagine how others may struggle to adapt their cooking practices to the produce available in the boxes.

In attempting to understand and analyse these challenges, we find the MLP somewhat limited in scope. In these cases, Eostre ran into difficulties because of social practices such as building design and architecture, working practices and cooking practices which, although adjacent to and closely interconnected with the food system, extend far beyond it. Here, the MLP's detailed focus on the emergence of novelty within single regimes is limiting. What is required in addition, is an understanding of how the sustainable food system that Eostre was experimenting with, was or was not able to become integrated into pre-existing practices and systems of practice many of which have nothing ostensibly to do with food. Here, SPT's focus on the elements of which practices are comprised and how they circulate is helpful as it allows one to explore how Eostre Organics was generating new elements of practice, and how these did or did not get taken up in everyday performances. In short, a horizontal analysis of how specific practices cut across multiple regimes in the course of normal everyday life is required alongside the vertical analysis offered by the MLP. In our next example, we explore how SPT might offer a means of achieving this although, again, we soon encounter empirical realities that extend beyond the single theoretical frame.

Figure 3: Mapping Eostre Organics onto the MLP



Based on Smith, forthcoming, no page

3.2 EcoTeams: Civil Society-led Innovations in Practice

Whilst Eostre Organics, and the examples highlighted by Smith (forthcoming), address the ways in which civil society groups challenge particular unsustainable regimes and systems e.g. food, energy etc., and seek to introduce novel and sustainable alternatives, another equally important area of civil society activity cuts across single regimes and systems in an attempt to change the normal everyday social practice in which people are routinely engaged. Our second example explores this area of activity by examining the EcoTeams approach to behaviour change operated by the environmental charity Global Action Plan.²

EcoTeams are small groups of people drawn from within the same community – whether the same neighbourhood, social network, workplace or school – who hold regular discussion meetings over the course of 4-6 months to analyse and seek to reduce the environmental impacts of their everyday lives. Each meeting has a different theme covering, variously, waste, shopping, energy, water and travel and, on each occasion, group members are asked to monitor their current practices by, for example, weighing their waste or monitoring their energy consumption, and then to discuss, learn about and ultimately to try out more environmentally-friendly alternatives³.

The EcoTeams programme has already received a fairly large amount of academic attention that has highlighted the importance of group processes in creating a supportive social context in which to reflect on everyday lives, the value of the local and experiential knowledge possessed by group members, and the forms of social norms and pressure created within the groups that help to encourage behavioural changes (e.g. Georg 1999; Michaelis 2004; Staats et al 2004; Hargreaves et al 2008; Nye and Burgess 2008). Whilst our example draws from these accounts of EcoTeams processes, our concern here is to explore the ways in which EcoTeams attempt to encourage and generate innovations in practice. Whilst some might attempt to interpret EcoTeams in terms of the MLP – as a protected niche that allows experimentation with more sustainable innovations and that then seeks to diffuse these into the mainstream of everyday life - we would argue that such an attempt would be misplaced because, quite simply, each EcoTeam process addresses around 100 different behaviours across multiple distinct regimes (energy, water, waste, food etc). As such, the sustainable lifestyles that EcoTeams aim towards do not align well with an MLP-based analysis which would miss these cross-regime dynamics. Instead, we suggest, EcoTeams are better analysed as attempts to intervene in the configurations and integrations of the elements of practices that comprise individuals' everyday lives.

When EcoTeams processes are analysed using SPT, a number of insights are revealed that stretch beyond those revealed by, either, conventional individualistic understandings of behaviour change (cf. Shove 2010) or the conventional mono-regime focus of MLP-based approaches. The first stage of the EcoTeams programme, after the team itself has been recruited, is to conduct an audit of everyday lifestyle practices in order to establish their environmental impacts. Typically, when EcoTeam members are first confronted with their accumulated impacts, they express shock at their size, and a

² See www.globalactionplan.org.uk for more information.

³ Although Global Action Plan runs several programmes under different names (e.g. Environment Champions, Action at School), in this paper we use the term 'EcoTeams' to refer to the general group-based approach to behaviour change that underpins all of them.

sense of motivation to do something about it (e.g. Hargreaves 2011). By 're-materialising' (Burgess and Nye 2008) everyday life in this way, turning things that were previously habitual, unconscious and inconspicuous into conspicuous problems to be deliberated over (e.g. Hobson 2002), this first stage of EcoTeams can thus be seen as an attempt to challenge the elements of existing practices, as well as the links between them.

After the audit has challenged previously routine practices in this way, subsequent group meetings then provide means to reconstruct practice in new, more sustainable ways. For example, the EcoTeams handbook (Global Action Plan, n.d.) which is distributed to all EcoTeams as a means of supporting them through the process, contains countless examples of new images, skills and materials that might be incorporated into practices to reduce their environmental impacts. The chapter on energy, for example, as well as containing information about climate change (images/meanings), provides details of more efficient and sustainable domestic appliances such as boilers, kettles and forms of microgeneration (materials), and also makes suggestions for new routines and habits (skills) that EcoTeamers might try to save energy, such as closing curtains, only washing full loads, part-filling the kettle etc. The group meetings, by discussing these new pro-environmental elements of practice, thus serve as fora in which new pro-environmental practices-as-entities are, at least discursively, constructed.

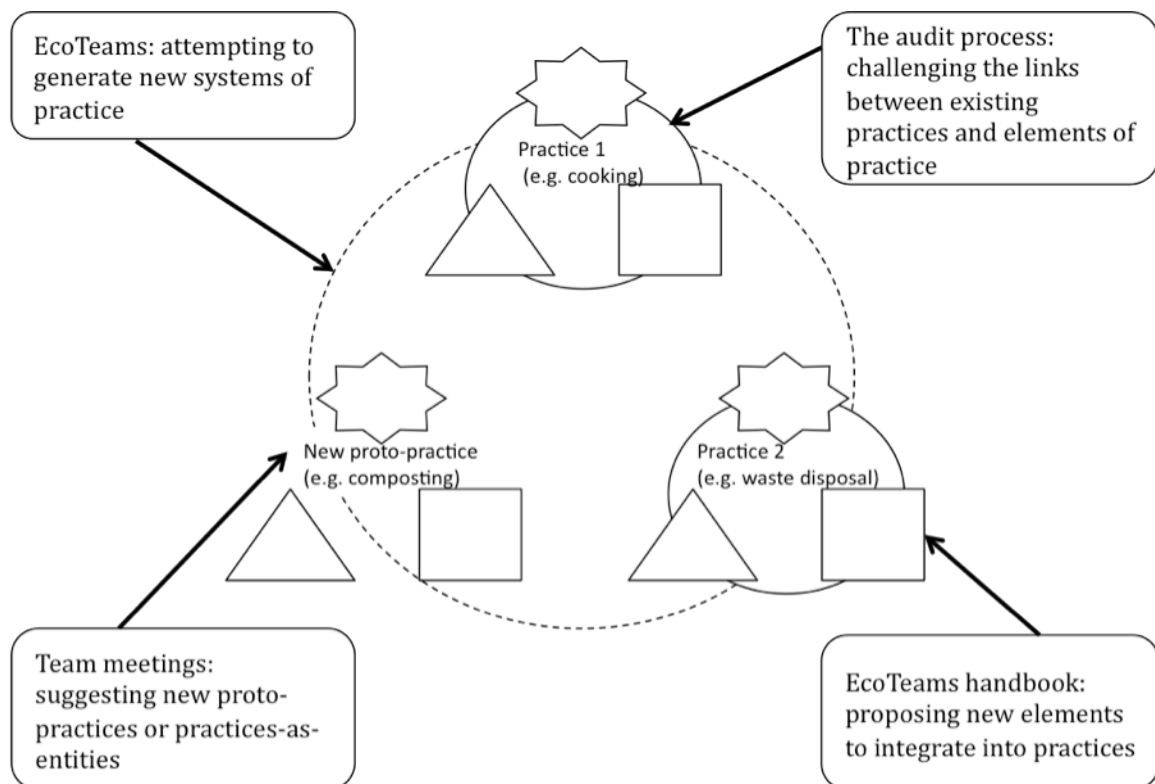
The next stage of the process involves trying to turn these discursive practices-as-entities into performances, and it is here that many EcoTeamers find the process most challenging. In effect, this stage involves circulating the new pro-environmental practices-as-entities by performing them oneself and seeking to recruit others. In so doing, however, EcoTeam members often report struggling routinely to perform the new practices themselves because they do not conveniently fit in with existing everyday routines, struggling to get other family members, friends or colleagues to try out new ways of doing things and accept the disruption this may cause, but, perhaps most importantly of all, they often report a sense of frustration that wider systems and infrastructures are not more supportive of their efforts to go 'green'. For example, eco-products may not be stocked in supermarkets, local recycling facilities may be inadequate for certain materials, loans and grants for forms of insulation or microgeneration simply aren't available, whilst business leaders and politicians continually fail to match their rhetoric with meaningful action. In short, EcoTeamers often express frustration that their own best efforts will be pointless in the absence of wider system transition. Indeed, anecdotal evidence suggests that after the formal EcoTeam process has ended, many EcoTeamers continue to meet and indeed often turn their attention to more direct systems change e.g. by engaging in local politics or establishing bio-dynamic allotments (e.g. Burgess 2003; Global Action Plan 2006).

Figure 4 provides a schematic illustration of how, through programmes such as EcoTeams, civil society groups attempt to intervene in practices and systems of practice. The key point, however, is that attempts to change practices soon run into trouble when they encounter the apparent obduracy of wider systems and regimes. As such, whilst SPT helps in understanding the sorts of roles civil society groups might play in sustainability transitions, its limits are also very clear. In addition to understanding the dynamics and changing patterns of normal everyday lives, there is a need to

understand how novel sustainable systems and regimes might be created, and it is here that the MLP appears able to help.

In summary, the two examples addressed in this section show that the empirical realities of civil society action for sustainability transitions extends beyond the analytical limits of either the MLP or SPT in isolation from one another. Whilst each of these theoretical frameworks has an important and distinctive contribution to make – the MLP is valuable for analysing the sources of novelty within single systems and regimes whilst SPT is valuable in helping to understand how the dynamics of normality are made up by social practices that refuse to respect regime and system boundaries – neither appears able to fully explain civil society action for sustainability transitions on its own. Crucially, however, the distinctive strengths of each approach appear able to make up for the gaps and limitations of the other. Fully understanding the roles of civil society groups in sustainability transitions thus requires the insights of both the MLP and SPT. In the next section, we re-examine an analytical framework originally offered by Shove (2003), which seeks to bring both of these theoretical approaches together.

Figure 4: Mapping EcoTeams onto practices and systems of practice



Based on Pantzar and Shove 2006, p7

4. DISCUSSION: CONNECTING THE MLP AND SPT

Whilst the preceding sections have explored the distinctiveness of the analyses offered by the MLP and SPT, in this section we turn our attention to their similarities and to the ways in which they might be fruitfully brought together and connected. In seeking to draw together and connect these two distinct theories, it is important to be clear about the limits to our theoretical ambitions. Our aim in this section is not to integrate, fuse or hybridise these two approaches into an over-arching, universal theory, for to do so would undermine the distinctive contribution that each makes alone. Instead, like Geels (2010), our aim is to explore the ‘crossovers’ between these two theories, to examine “interplay, not synthesis” (Geels 2010, p503) in order to see what SPT can add to the MLP and vice-versa. We do this by, first, examining the similarities between the two approaches and, second, by re-examining an analytical framework originally proposed by Shove (2003) that, we argue, is capable of gathering together the benefits of each approach and thus provides a means to more fully understand the roles that civil society groups may play in sustainability transitions.

Perhaps the central similarity between the MLP and SPT, with regards to sustainability transitions at least, is that both recognise contemporary environmental and sustainability challenges as demanding fundamental systems change that cannot be achieved through incremental tinkering with existing systems. As Shove (2010) puts it:

“relevant societal innovation is that in which contemporary rules of the game are eroded; in which the status quo is called into question; and in which more sustainable regimes of technologies, routines, forms of know how, conventions, markets, and expectations take hold across all domains of daily life.” (Shove 2010, p1278)

Both the MLP and SPT are ‘middle range’ approaches that refuse to give primacy to either structure or agency in sociotechnical change processes, but instead focus on the dynamics of ‘Structuration’ (Giddens 1984) that drive both system stability and change (e.g. Geels and Schot 2007; Røpke 2009; Geels 2010). Further still, both theories recognise that these processes will involve multiple actors, will follow non-linear trajectories, will display co-evolutionary and emergent dynamics that proceed despite various forms of path-dependency and lock-in, and therefore that to the extent governance is possible, it must necessarily take an adaptive and reflexive form (e.g. Rip 2006; Shove and Walker 2007).

Given the large amount of overlap and shared interest between the two theories, it is therefore of no surprise either that theorists have sought vigorously to defend their distinctiveness and incompatibility (e.g. Shove and Walker 2010), or that more recent efforts have been made to integrate and hybridise these frameworks (e.g. Smith et al 2010; Geels, forthcoming). Geels (forthcoming), for example, has attempted to link the two theories by suggesting that the distinction between the levels of the MLP refers only to degrees of structuration and stability and that, as such, the vertical notion of a ‘nested hierarchy’ should perhaps be abandoned. Similarly, Smith et al (2010) have taken steps towards integration by arguing that SPT does in fact recognise different degrees of stability within practices and thus, in effect, already contains a ‘vertical’ dimension. Geels (forthcoming) has taken this point still further to tentatively suggest that it might

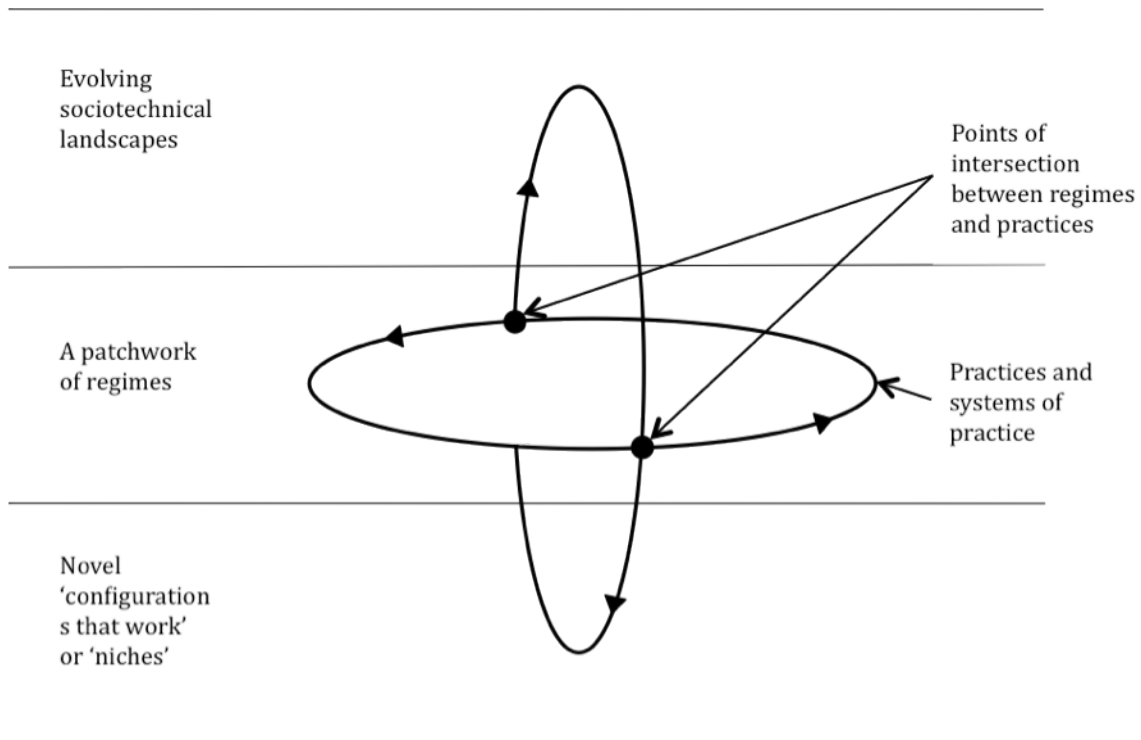
be possible to speak of regimes as stabilised or routinised practices, and of niches as more emergent, fluid practices⁴.

Nonetheless, whilst these respective efforts to render the vertical horizontal and the horizontal vertical are valuable steps towards combining the insights of both approaches, they run the risk of underplaying the distinctive contributions made by each theory because they obscure the key difference between them. Namely, that they address different units of analysis, with the MLP concerned with transitions in regimes and SPT concerned with transitions in practice (Shove, forthcoming). As such, these integrative efforts potentially conflate distinct analytical approaches. Instead, we suggest it is preferable, at least as a first step, to examine *both* how niches, regimes and landscapes in particular systems interact with and impact upon multiple everyday practices, *and* how particular practices and systems of practice intersect with the dynamics of niches, regimes and landscapes. In so doing, we are led to re-examine an analytical framework originally proposed by Shove (2003 – see figure 5).

What this diagram suggests, is that fully understanding the role of civil society in sustainability transitions will demand not only analysing the ways in which they engage with transitions in regimes and transitions in practices, but also exploring the ways in which regimes and practices intersect with one another and bump into one another and how, in the process, sustainability transitions are enabled or constrained. As such, the examples presented in section 3 need extending, through further research, to show how initiatives such as Eostre Organics might introduce new elements into a range of different social practices, and to examine how programmes such as EcoTeams might lead to the dismantling of old or the construction of new systems and regimes.

⁴ Going still further, Smith (forthcoming) uses the term ‘sociotechnical practices’ although, in this case, it is unclear exactly which aspects of these different theoretical approaches are being retained or discarded.

Figure 5: Combining the MLP and SPT



Adapted from Shove 2003, p193

To date, and to the best of our knowledge, there have been no studies using an MLP-based approach that have systematically analysed how transitions in regimes influence bundles of everyday practices that are not regime specific. This is unsurprising for, as Shove (forthcoming) notes, the MLP is “not designed to understand the dynamics of social practice” (no page). Further still, Geels (forthcoming) argues that the MLP is a ‘global theory’ and, as such, should not be criticised for failing to offer “local theories...that analyze how actors navigate, struggle and search they way through long-run processes” (no page). As such, we should not expect MLP-based analyses to get to grips with the everyday contingencies and negotiations involved in social practices. Nonetheless, some MLP-based studies have begun to look beyond single regimes to explore ‘boundary crossing innovations’ (Raven and Verbong 2009) that create linkages between previously distinct regimes in new ways, whilst others have recognised that ‘multi-regime interactions’ (Geels 2007) are crucial in some transitions processes. Whilst these studies represent important initial attempts to move beyond the MLP’s single regime focus, they have not, as yet, made the connection to everyday social practices.

Whilst MLP-based analyses could go further to analyse practices that cut-across regimes, the same could also be said for studies that employ SPT. Here, however, Shove’s work (see especially 2003 and forthcoming) has begun to examine the ways in which practices and surrounding systems and regimes are intrinsically connected to one another. In her research on indoor heating and cooling systems, for example, Shove

has clearly traced the ways in which the contemporary housing regime has developed based on assumptions about the sorts of clothing people wear and the sorts of practices they are likely to engage in. Over time, these assumptions have become enshrined in building codes and regulations in the form of minimum and maximum temperatures which homes must be able to deliver all year round, further cementing the link between existing practices and the housing regime and, in the process, standardising 18-21 degrees centigrade as the 'normal' indoor temperature all around the world (e.g. Shove, forthcoming). Shove's work thus reveals the constant interplay between regimes and practices, showing how both are constantly made and re-made in each others image.

Whether they are driven by an interest in transitions in regimes or transitions in practices, we would call for more studies that examine the ways in which practices and regimes are interconnected across space and time, not only as a means to fully understand the roles civil society groups may play in sustainability transitions, but also as a means to understand sustainability transitions processes more generally. As such, figure 5 potentially provides an analytical framework on which to base this research. Empirically, depending on the researcher's primary interest, such work could commence from any point on either of the two intersecting circles shown in the diagram, from transitions in regimes or transitions in practice. The crucial point is that in the process of fully exploring either circle, the analysis will eventually encounter, and must therefore explore, the other. At least three important developments appear likely to emerge from such analyses.

First, analyses of the points of intersection between practices and regimes in transition will reveal not one, but two parallel (or rather perpendicular) tracks of path-dependency. Further still, these two tracks are seen to co-evolve with one another. As such, the task for civil society groups, as well as for others, in trying to bring about sustainability transitions appears doubly difficult.

Second, such analyses may help to reveal some of the more subtle and implicit ways in which regimes and practices appear not only 'locked-in' (Unruh 2000), but also locked together. Whilst Smith (forthcoming) highlights the explicit and direct ways in which civil society groups attempt to generate sustainability transitions (e.g. through various forms of protest), detailed analyses of the connections between regimes and practices are likely to reveal a number of more subtle ways in which regimes leave traces in practices and vice-versa. For example, they may raise questions of how particular practices become enshrined in particular regimes and infrastructures (e.g. Shove, forthcoming), of how particular practices develop in ways that are fundamentally dependent on specific regimes, or even of how different regimes and practices may become embodied within individual practitioners. Here, analyses may begin to explore the ways in which particular practices and regimes serve to discipline and govern (e.g. Foucault 1977; 1991) their subjects, attempting to shape their thoughts and actions in ways that further enhance their stability and reproduction.

Third, these analyses may draw more attention to the geographies of sustainability transitions as a welcome complement to the current focus on their histories and futures (Smith 2009). Here, for example, analyses may focus on the particular sites, whether physical locations such as kitchens, bathrooms, power stations etc., or other kinds of site such as policy documents, forms of discourse or artefacts, in which practices and regimes intersect and either align to reinforce or stabilise each other or instead serve to

challenge and disrupt one another's dynamics. Going still further, if the characteristics of these moments and sites of intersection could be adequately mapped and understood, there is a slim possibility that the framework presented in figure 5 could act as a governance tool to help in either avoiding or actively engineering such spaces and times as a means to encourage sustainability transitions. As acknowledged above, however, such forms of governance are not made any easier when the emergent dynamics of practice are added to the complex trajectories of regimes in transition.

Before concluding, it is worth again stressing the limits to our theoretical ambitions in this paper, and sounding a cautionary note about some of the potential challenges involved in any future attempts towards integration between the MLP and SPT. As stated earlier, our aim has been to explore the connections and crossovers between the MLP and SPT rather than to try and fuse, hybridise or integrate these two distinct approaches into a single, over-arching theory. We limited our ambitions in this way as a means to emphasise the distinct units of analysis that each theory addresses on its own and which, whilst they may overlap and connect in various ways, remain very far from being congruent. There are, however, a number of limits to and gaps within our approach that, we suggest, would benefit from further conceptual development. We will highlight just two. The first relates to the concept of the landscape. Whilst, in the MLP, the landscape concept provides a useful exogenous context to help delimit what is inside the regime in question compared to what is outside it, this concept becomes especially problematic when practices are the unit of analysis. As Shove (forthcoming) notes, for example, defining what is to be counted as part of the system in transition is always a matter of choice and has important consequences (see also Genus and Coles 2008). Given that practices cut across multiple regimes, and, further, that some practices or systems of practice may serve as a kind of context or 'landscape' that anchors still other practices (e.g. Schatzki 2002), this issue becomes extremely difficult if not impossible to resolve. In this paper we have rather side-stepped this issue by exploring only the connections and crossovers between the MLP and SPT and not attempting to integrate them. Further thought should be given to this question, however, to establish whether or not there are irreconcilable differences between the two approaches. The second relates to a potential gap in our framework. Smith (forthcoming) draws on social movement theory (and particularly resource mobilisation theory) in his effort to explore the roles of civil society groups in sustainable energy transitions. Such theories help to explain and contextualise the resources available to civil society groups and which may enhance or limit their capabilities. Further, more recent theories of new social movements (see for example Buechler 1995, 2000) have begun to open up questions of identities in transition. This is an issue that is not well addressed by either the MLP or SPT and, as such, offers a potentially important avenue for further research⁵.

In summary, the analytical framework presented in figure 5 significantly expands on that proposed by Smith (forthcoming – see figure 1) for examining the roles that civil society groups may play in sustainability transitions. Smith rightly encourages more work on the ways in which civil society groups generate radical innovations in niches, how they challenge existing regimes and how they influence landscape values. Such research is crucial, however, we suggest that future work on civil society groups should

⁵ This issue is the subject of another paper that is currently in development (see Haxeltine et al 2011).

also seek to examine ways in which they attempt to intervene in the dynamics of everyday practices, as well as the ways in which transitions in practice and transitions in regimes influence one another.

5. CONCLUSION

This paper has attempted to make three related contributions to ongoing work on sustainability transitions. First, to reinforce an emerging trend in this work that sees civil society groups as crucially important actors in sustainability transitions alongside market and state actors (e.g. Seyfang and Smith 2007). Second, to argue that, on its own, the MLP fails adequately to capture the full range or extent of the roles civil society groups might play in such processes because civil society activities cut across multiple regimes and because as often as they generate novel ways of doing things, civil society groups also attempt to dismantle and remake existing concepts of what is normal. Here, SPT was explored as a potentially valuable complement to the MLP that helps to extend its reach and scope to cover the 'horizontal' dynamics of normality, as well as the 'vertical' dynamics of novelty. Third, the paper re-introduced an analytical framework originally proposed by Shove (2003) that encourages simultaneous analysis of transitions in regimes, transitions in practice, as well as their points of intersection. The potential implications of this framework were also discussed.

Overall, this paper has argued that fully understanding the potential roles played by civil society groups in sustainability transitions requires an understanding of both regimes *and* practices in transition, as well as an understanding of the ways in which practices and regimes intersect with one another. In closing, we would call for more research to explore the implications of this framework in relation to civil society groups, but also to other actors involved in sustainability transitions.

References

- Avelino, F. & Kunze, I. (2009) Exploring the transition potential of the ecovillage movement. *European Conference on Sustainability Transitions: Dynamics and Governance of Transitions to Sustainability*. 4-5 June 2009, Amsterdam, The Netherlands.
- Brown, H. S. & Vergragt, P. J. (2008) Bounded socio-technical experiments as agents of systemic change: The case of a zero-energy residential building. *Technological Forecasting & Social Change*, 75, 107-130.
- Buechler, S. M. (1995) New Social Movement Theories. *The Sociological Quarterly*, 36(3), 441-464.
- Buechler, S. M. (2000) *Social Movements in Advanced Capitalism*, Oxford, Oxford University Press.
- Burgess, J. (2003) Sustainable consumption: is it really achievable? *Consumer Policy Review*, 13(3), 78-84.
- Burgess, J. & Nye, M. (2008) Rematerialising energy use through transparent monitoring systems. *Energy Policy*, 36, 4454-4459.
- Elzen, B., Geels, F. W. & Green, K. (Eds.) (2004) *System Innovation and the Transition to Sustainability: Theory, Evidence and Policy*, Cheltenham, Edward Elgar.
- Eostre Organics (2004) The Eostre Organics Charter available online at <http://www.eostreorganics.co.uk/charter.htm>. Last accessed 22.03.11.
- Foucault, M. (1977) *Discipline and Punish: The Birth of the Prison*, London, Penguin.
- Foucault, M. (1991) Governmentality. pp87-104 in Burchell, C., Gordon, C. & Miller, P. (Eds.) *The Foucault Effect: Studies in Governmentality*. Chicago, The University of Chicago Press.
- Geels, F. W. (2006) The hygienic transition from cesspools to sewer systems (1840-1930): The dynamics of regime transformation. *Research Policy*, 35(7), 1069-1082.
- Geels, F. W. (2010) Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research Policy*, 39, 495-510.
- Geels, F. W. & Verhees, B. (Forthcoming) Cultural legitimacy and framing struggles in innovation journeys: A cultural-performative perspective and a case study of Dutch nuclear energy (1945-1986). *Technological Forecasting & Social Change*.
- Geels, F.W. (2005) The dynamics of transitions in socio-technical systems: a multi-level analysis of the transition pathway from horse-drawn carriages to automobiles (1860-1930). *Technological Analysis and Strategic Management*, 17, 445-476.
- Geels, F.W. (2007) Analysing the breakthrough of rock 'n' roll (1930-1970): Multi-regime interaction and recognifuration in the multi-level perspective. *Technological Forecasting & Social Change*, 74, 1411-1431.

- Geels, F.W. (Forthcoming) The multi-level perspective on sustainability transitions: Responses to eight criticisms. *Environmental Innovation and Societal Transitions*.
- Geels, F.W. & Schot, J. (2007) Typology of sociotechnical transition pathways. *Research Policy*, 36(3), 399-417.
- Genus, A. & Coles, A. (2008) Rethinking the multi-level perspective of technological transitions. *Research Policy*, 37, 1436-1445.
- Georg, S. (1999) The social shaping of household consumption. *Ecological Economics*, 28, 455-466.
- Giddens, A. (1984) *The constitution of society: Outline of the theory of structuration*, Cambridge, The Polity Press.
- Global Action Plan, (n.d.) *The EcoTeams Workbook*, London, Global Action Plan.
- Global Action Plan. (2006) Changing Environmental Behaviour: A review of the evidence for behaviour change from Global Action Plan. London, Global Action Plan.
- Gram-Hanssen, K. (2010) Standby Consumption in Households Analyzed With a Practice Theory Approach. *Journal of Industrial Ecology*, 14(1), 150-165.
- Hargreaves, T. (2011) Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change. *Journal of Consumer Culture*, 11(1), 79-99.
- Hargreaves, T., Nye, M. & Burgess, J. (2008) Social experiments in sustainable consumption: an evidence based approach with potential for engaging low income communities. *Local Environment*, 13(8), 743-758.
- Hielscher, S., Seyfang, G. & Smith, A. (2011) Community Innovation for Sustainable Energy: Growing Alternative Consumption Practices Through Civil Society Movements? *Sustainable Consumption Research and Action Initiative (SCORAI) workshop on 'Socio-technical Transitions, Social Practices and the New Economics: Meeting the Challenges of a Constrained World'*. 14-16 April 2011, Princeton, New Jersey.
- Hobson, K. (2002) Competing Discourses of Sustainable Consumption: Does the 'Rationalisation of Lifestyles' Make Sense? *Environmental Politics*, 11(2), 95-120.
- Longhurst, N. (Forthcoming) The Totnes Pound: a grassroots experimental niche. In Davies, A. (Ed.) *Enterprising Communities: grassroots sustainability innovations*. Bingley, Emerald.
- Michaelis, L. (2004) Community, reflexivity, and sustainable consumption. pp207-232 in Reisch, L. & Røpke, I. (Eds.) *The Ecological Economics of Consumption*. Cheltenham, Edward Elgar.
- Mulugetta, Y., Jackson, T. & Van Der Horst, D. (2010) Editorial: Carbon reduction at community scale. *Energy Policy*, 38, 7541-7545.

- Nye, M. & Burgess, J. (2008) Promoting Durable Change in Household Waste and Energy Behaviour: A technical research report completed for the Department of Environment, Food and Rural Affairs. Norwich, University of East Anglia.
- Pantzar, M. & Shove, E. (2006) Circuits of reproduction and the dynamics of practice in everyday life. *Paper for the Second Organization Studies Summer Workshop on 'Return to Practice: Understanding Organization As It Happens'*. 15-16 June 2006, Mykonos, Greece.
- Pantzar, M. & Shove, E. (2010) Understanding innovation in practice: a discussion of the production and re-production of Nordic Walking. *Technological Analysis and Strategic Management*, 22(4), 447-461.
- Raven, R. P. J. M. (2006) Towards alternative trajectories? Reconfigurations in the Dutch electricity regime. *Research Policy*, 35, 581-595.
- Raven, R. P. J. M. & Verbong, G. P. J. (2009) Boundary crossing innovations: Case studies from the energy domain. *Technology in Society*, 31, 85-93.
- Reckwitz, A. (2002) Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *European Journal of Social Theory*, 5(2), 243-263.
- Rip, A. (2006) A co-evolutionary approach to reflexive governance - and its ironies. in Voss, J.-P., Bauknecht, D. & Kemp, R. (Eds.) *Reflexive Governance for Sustainable Development*. Cheltenham, Edward Elgar.
- Røpke, I. (2009) Theories of practice - New inspiration for ecological economic studies on consumption. *Ecological Economics*, 68, 2490-2497.
- Schatzki, T. R. (2002) *The Site of the Social: A philosophical account of the constitution of social life and change*, Pennsylvania, Pennsylvania State University Press.
- Seyfang, G. (2009) *The New Economics of Sustainable Consumption: Seeds of Change*, Basingstoke, Palgrave MacMillan.
- Seyfang, G., Haxeltine, A., Hargreaves, T. & Longhurst, N. (2010) Energy and communities in transition - towards a new research agenda on agency and civil society in sustainability transitions. University of East Anglia, Centre for Social and Economic Research on the Global Environment (CSERGE) Working Paper EDM 10-13.
- Seyfang, G. & Smith, A. (2007) Grassroots innovations for sustainable development: Towards a new research and policy agenda. *Environmental Politics*, 16(4), 584-603.
- Shove, E. (2003) *Comfort, Cleanliness and Convenience: The Social Organization of Normality*, Oxford, Berg.
- Shove, E. (2010) Beyond the ABC: climate change policy and theories of social change. *Environment and Planning A*, 42, 1273-1285.

- Shove, E. (Forthcoming) Energy transitions in practice: the case of global indoor climate change. in Verbong, G. & Loorbach, D. (Eds.) *Governing the Energy Transition: reality, illusion or necessity*. London, Routledge.
- Shove, E. & Pantzar, M. (2005) Consumers, Producers and Practices: Understanding the invention and reinvention of Nordic walking. *Journal of Consumer Culture*, 5(1), 43-64.
- Shove, E. & Walker, G. (2007) Caution! Transitions ahead: politics, practice and sustainable transitions management. *Environment and Planning A*, 39, 763-770.
- Shove, E. & Walker, G. (2010) Governing transitions in the sustainability of everyday life. *Research Policy*, 39, 471-476.
- Smith, A. (2006a) Green niches in sustainable development: the case of organic food in the United Kingdom. *Environment and Planning C*, 24, 439-458.
- Smith, A. (2006b) Niche-based approaches to sustainable development: radical activists versus strategic managers. in Bauknecht, D., Kemp, R. & Voss, J.-P. (Eds.) *Sustainability and Reflexive Governance*. Camberley, Edward Elgar.
- Smith, A. (2009) The multilevel perspective on sociotechnical transitions: some reflections on concepts, spaces and scales in sustainable energy transitions. *ESRC Seminar Series: Geographies of energy transition: security, climate, governance*. 26th November 2009. University of Leicester, UK.
- Smith, A. (Forthcoming) Civil Society in Sustainable Energy Transitions. in Verbong, G. & Loorbach, D. (Eds.) *Governing the Energy Transition: reality, illusion or necessity*. London, Routledge.
- Smith, A., Stirling, A. & Berkhout, F. (2005) The governance of sustainable sociotechnical transitions. *Research Policy*, 34, 1491-1510.
- Smith, A., Voss, J.-P. & Grin, J. (2010) Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Research Policy*, 39, 435-448.
- Staats, H., Harland, P. & Wilke, H. (2004) Effecting Durable Change: A Team Approach to Improve Environmental Behavior in the Household. *Environment and Behavior*, 36(3), 341-367.
- Truffer, B. (2003) User-led innovation processes: the development of professional car sharing by environmentally concerned citizens. *Innovation*, 16(2), 139-154.
- Unruh, G. (2000) Understanding Carbon Lock In. *Energy Policy*, 28(12), 817-830.
- Van Der Brugge, R., Rotmans, J. & Loorbach, D. (2005) The transition in Dutch water management. *Regional Environmental Change*, 5, 164-176.
- Verheul, H. & Vergragt, P. (1995) Social experiments in the development of environmental technology: a bottom-up perspective. *Technological Analysis and Strategic Management*, 7(3), 315-326.

