The Role of Community in the Transition to Low Carbon Futures: The MLP and Transition Towns

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Abstract

The article offers an introduction to a neglected, but burgeoning area of academic scholarship: that of the role of community initiatives in the transition to low carbon futures. First, it sets out the reasons why such an energy transition has become desirable or inevitable even; before introducing the most prevalent method by which academics have attempted to characterise and typologise transition – that of the MLP. This is followed by an introduction to the growing field of community transition, and one of their most visible expressions – the Transition Town movement. This article attempts to see what synthesis or dialogue can be achieved between these two understandings of transition, one in theory and the other in practice, to improve the understanding of the role of community within transition.

Background: the case for a transition

It has become increasingly apparent that the Western world is living beyond its means. This can be most readily seen in the financial debt crisis that seems to be engulfing the Western world. But there are an increasing number of sources that hold it to be equally true in ecological terms.

In the popular media, writers have held that – quite simply – the Western way of life, with its associated patterns of consumption, debt, (even individualism) is living beyond its means. Monbiot (2007) and Lynas (2008) are key exponents of this genre, alongside the increasingly apocalyptic 'gaia' series of books by James Lovelock (2000a; 2000b; 2007; 2010). The burgeoning field also has its contrast in the rise of climate scepticism literature. However, there is an increasingly mainstream acceptance of the ecological peril ahead, and the effects of a widespread

lifestyle of high consumption seen as its cause. This can be seen as the prime driver behind the pursuit of change in our energy system, away from an energy and resource intensive way of life, towards a 'better one'. A potential destination is often hazily defined. This 'pursuit of change' is often referred to as a 'transition', but as seen below this is a contested polysemic term, with different meanings inscribed therein.

Aside from this more popular level of desire for transition, there are three key reasons for undergoing the attempted shift (transition) in current energy systems: peak oil, the IPCC reports, and a will for a transition amongst elites.

The role that peak oil plays in the emergence of future energy systems is yet to be made clear, but it could be decisive. Peak oil refers to the moment when demand for oil outstrips newly discovered reserves. This acts to drive up prices, and possibly even panic, as oil, having been the driving force behind industrial progress for such a long time, becomes scarce. There are many theories and debates around peak oil, with the usual cast of characters predicting its role either in the next apocalypse, or inaugurating their optimistic technocratic view that newer, cleaner technology will save us.

That so much of Western lifestyles and industrial progress since the nineteenth century depend on a supply of plentiful, cheap oil (and there has yet to be discovered as 'energy dense' a replacement) renders change, or transition, is in some way inevitable – whether one sees technology as salvic, or a modern Cassandra. The inevitably transitory nature of our exhaustive use of oil reserves obviously has implications for the Western way of life: highly mobile, consumptive and individual (Urry 2011).

Travel plans, urban design, and even our models of economic growth assume that oil will be around in perpetuity. The fact that this won't be the case is the first reason why the shift to a low carbon future is likely. Oil has proved incredibly successful for humanity, much is built on it and the presumption that it will last. This in turn means that the source of so much success becomes that very same source of vulnerability.

A second reason for necessitating change can be found in successive IPCC reports (cf. IPCC 2007). These highlight the role of anthropogenic emissions in driving climate change. Despite the IPCC's conservative

estimates, and also at times attracting criticism, there now seems to be a consensus amongst experts that our lifestyles of consumption are a key driver behind this. These lifestyles result in high levels of carbon emissions and other greenhouses gases.

There is also a will for a transition amongst elites – these being governments, corporations and other high level actors. Governments have demonstrated a will to legislate on carbon reduction targets. The EU for instance has targets mandating its governments to reduce emissions. However, here has been criticism of such legislation not going far enough as well as questions on the effectiveness of such targets. (See http://www.informationisbeautiful.net/2009/kyoto-whos-on-target/ for an excellent visualisation of such issues.)

This transition is caused not merely by significant changes in energy supply, such as peak oil, or by issues of justice raised by the IPCC. Even the fact that significant sections of society *believe* that change is inevitable can become a self-fulfilling prophecy. It has a certain performative quality to it. This is highlighted in government, corporate, and civil society recognition and planning for a future of lower carbon. That this future is open, plural, and pregnant with many possible outcomes is why the plural 'low carbon futures' is preferred here. It is the anticipation and preparation for a world of low carbon that can help bring it to birth, as much as either of the above reasons.

Not only are there practical and logistical reasons to shift, or transition, from this way of life. There are moral and ethical ones too. The ecologically and socially harmful effects of our lifestyles are distant in both time and space, it being generations ahead or in faraway places where the effects of sating our desires is felt. Imagined futures for children and grandchildren, or life on a Bangladeshi floodplain, reduces the distance and also heightens the feedback loop for our actions.

Collectively, these arguments convince that the current Western way of life is unsustainable, and prone to change. The lack of resources, most notably peak oil, means we cannot go on in the same manner. Even if the resources were there, compelling moral arguments state that the current system of exploitation of resources, in order to gain profit, which in turn necessitates a widening gap between rich and poor, is not sustainable.

For all these reasons, the shift or transition is not only inevitable, but also desirable, when one begins to take a long-term, inclusive perspective. Beyond living for now, beyond living for purely ourselves, and those we immediately are in contact with.

Transition in theory: the MLP

Concerns about the sustainability of energy systems have a long lineage. More recently, as described above, climate change, an increased awareness of peak oil and energy security concerns have helped make the decarbonisation of our energy system and its sustainability a matter of increasing policy, media and academic attention. Recent events such as the Copenhagen conference, IPCC reports, and increased media coverage have confirmed this.

However, realising that there is a necessity of a transition towards a sustainable energy system and knowing how to approach this are two different things. Although there is near consensus on the need to *transition* towards a low carbon system of energy production and consumption, there is little consensus on how to get there as different stakeholders have tended to invest the term transition with their own preconceptions.

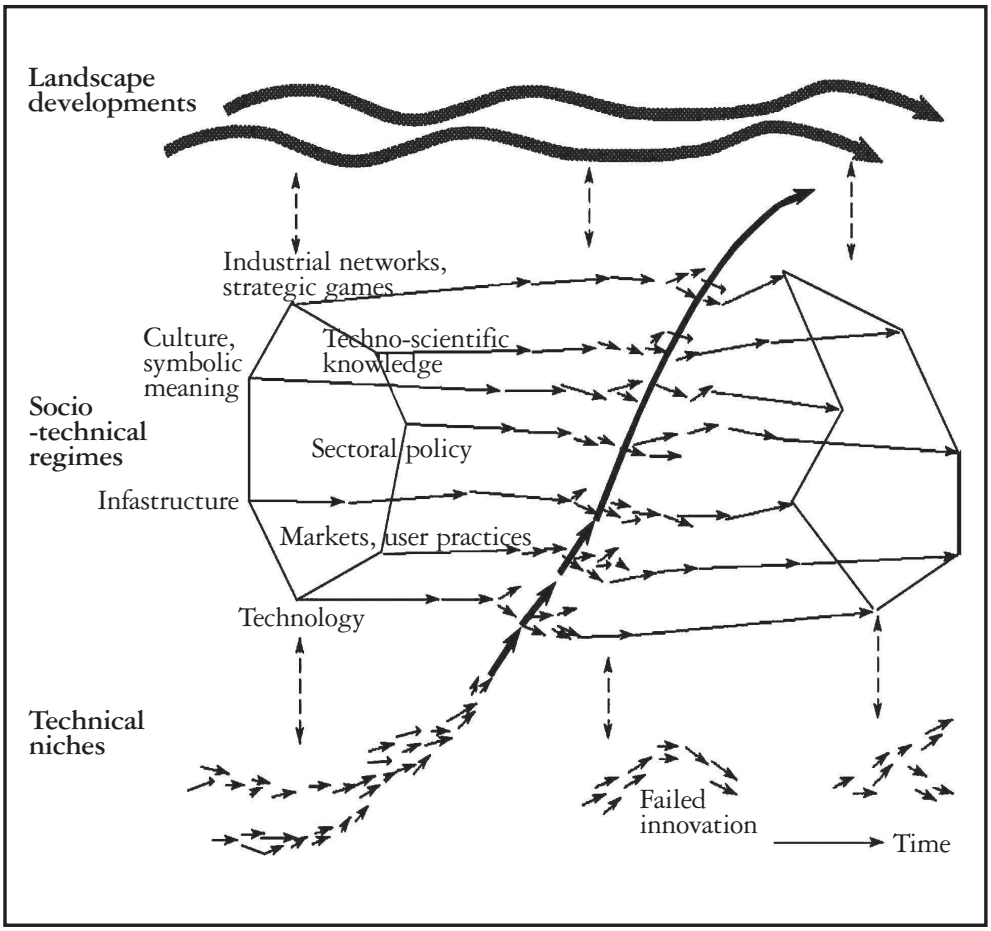
One way of conceiving of this transition, given increasing prominence is through a framework known as the multi-level perspective (MLP), is described in the next section. However, a disconnect between what transition looks like in the conceptual apparatus of the MLP and different expressions found on the ground is present even here. The theory of transition in MLP (within STS) has been individual in nature, historical in focus, and highly influential. Current examples of transition to be found empirically – if not in the literature engaging with the MLP – include communal, ground-up, emergent examples that seem at odds with this conceptual apparatus. Combining the theory and influence from the MLP, with the contemporary, community-based emergent transition might be one way to retain the strengths of each approach, while addressing some of their weaknesses.

There are also enormous policy implications, due to the vogue nature of these ideas, but also potential for the STS to engage with a type of data that is traditionally beyond its remit.

Sociotechnical systems and transition

When attempting to understand a socio-technical transition, the most influential description is the multi-level perspective (MLP), formulated by Rip and Kemp (1998). Geels (2002) has been prominent in theorising how sociotechnical systems undergo transition, in this case the transition of our energy system to a more sustainable one with increased renewable energy production. It has also had governance implications, being taken up into many government policies in the Netherlands.

Diagram 1. The multi-level perspective, as formulated by Geels (2002, 1263)



The MLP has three levels. At the bottom, micro-level, we have niches, or '*niche-innovations*' (Geels & Schot 2007, 399). Niches are unconventional and create enterprising technologies and practices. Because of this – they are sites of innovation, but also limited in their scope – they are by their very nature '*small and unstable*', '*novelties*' (Geels & Schot 2007, 400, 402). The meso-level consists of a patchwork of regimes, these being more stable and operated on a larger scale than niches. Regimes operate at a higher level than niches and as such take in a wider section of society as part of their construction. Verbong and Geels (2007) characterise regimes as containing: (a) a network of actors, (b) formal, normative and cognitive rules, and, (c) material and technical elements. In this model the regime is remarkably similar in definition to the whole sociotechnical system, reflecting the important place they occupy in the MLP. Regimes particularly are of interest to this article, in that transition, in the MLP, is defined as a shift from one regime to another (Geels & Schot 2007, 399). Landscapes are macro-level movements and concern phenomena that work on a wider scale. Macroeconomics and symptoms of current society like consumerism all operate on a landscape level. Of course, all three levels do not operate in a vacuum and mutually influence each other. Of interest to us here is that, according to the MLP, a transition is described as a shift from one regime to another (Geels & Schot 2007, 399).

A weakness in the MLP literature on transition is what Graham and Marvin (2001, 21) elsewhere have lamented: '*critical research into urban infrastructure has recently tended to focus on historical rather than contemporary contexts*'. Major examples of the MLP lean heavily on the transition from horse-drawn carriages to automobiles (1860–1930) (Geels 2005a) or the rise of the sewer system (1850–1930) (Geels 2005b). The fact that very few contemporary examples of the MLP can be seen to date is no reason not to proceed and employ the MLP, such transition often being easier to chart in hindsight.

Graham and Marvin (2001, 21) relate this over-focus on historical examples to '*narrow examples of technological determinism*'. One aspect of the need to shift to a sustainable energy system that is emphasised by transition communities, such as the Transition Town movement, is the concept of peak oil. The largely historical narratives of the MLP can be seen as a

form of technological abstraction. As Monstadt (2009) recently argued for, a more socio-ecological approach to transition and engagement with STS would be more reflective of on the ground transition initiatives.

Although Monstadt's friendly critique of the MLP is similar to this article, it differs in an important respect. In what follows the desire is not to seek to do away with the MLP, or to replace sociotechnical understandings of transition with a socio-ecological or any other socio- suffix. Rather it seeks to retain what is of value in the MLP (its coherent narrative, detailed descriptions and policy relevance), all the while holding in tension what are seen here as some of its major weaknesses (historical focus, technologically deterministic, individual, 'ideal type' approach to representing transition). Next the paper addresses what specifically emergent transition communities can offer to strengthen this way of understanding and governing transition.

Transition in practice: Transition Towns

Sociotechnical transition is well documented in the MLP and has found some policy relevance through inclusion in Dutch government policies. There is a different form of transition that is growing in prominence. These involve bottom-up, interactive communities, a prominent example of which is the Transition Town movement (Aiken 2012; Mason & Whitehead 2011; Seyfang 2009). The way they function challenges previous conceptions of hierarchies, networks and also creativity and innovation. Due to their prevalence, reach and influence they are too important a response to leave out of any understandings of transition.

This phenomenon has in part been put down to the inertia and ineptitude of government and policy responses to climate change and peak oil. A key theme running through the Transition Town movement is the DIY culture, a sense that current conceptions of a response to the challenge posed by climate change, conceptions of transition even, are wholly inadequate. As such there is a desire to self-organise. The closely linked MLP and government policy can be seen to have the same flaws that don't work for emergent expressions of transition communities, like Transition Towns.

Transition Town founder and spokesperson Rob Hopkins describes the phenomena as having four characteristics. They are: (i) viral, requiring no formal structure; (ii) open-source, shaped and moulded by users; (iii) solutions focused, not driven by prior normative goals; and (iv) sensitive to place and scale, taking a different form or characteristics in different locations (Hopkins 2008).

The Transition Town contagion is not about stages and rejects previous attempts to characterise the rollout of different ideas. It is chaotic and non-linear, where multiple different things happen at the same time. The 'organisation' and those belonging to it value multiplicity and chaos. As such it is no surprise that it often appears incoherent. Certainly it doesn't appear to ascribe to, or fit, previous conceptions of transition, such as the MLP.

Despite this divergence, the MLP, Transition Towns, and other policy statements, academics and commentators who attach different meanings to transition, still value the term enough to use it. Hulme (2009) has suggested that it is a term's plasticity that ensures its claim to sustained attention. 'Transition' certainly has this plasticity. Is it the case that both sociotechnical theorising of transition and the viral communities are united by lexicon and little else? This article seeks to see what can be achieved with an interdisciplinary approach to both of these fields. It will ascertain what benefits, if any, for theory and methodology can be had by a coming together of these two areas.

The Transition Town movement has also attracted attention from attempting to assess their role in the wider transition to low carbon futures (good examples are North, 2010; Smith 2011a, 2011b). This does however often exist beyond the literature on sociotechnical transitions using the MLP (exceptions include Seyfang (2009)).

For instance, North (2011) uses Social Movement Theory to argue that groups such as the Transition Town movement – and other low carbon communities – are perhaps more likely to exist under the radar (below even 'niche' level): '*seemingly low level of headline activism mask greater levels of local activism by unlikely, perhaps rather unfashionably globally prosperous, people that needs to be taken more seriously by scholars*' (North 2011, 1581). North draws attention to the local particularities of such initiatives. Although

they are responding to global macro issues ('landscape' in the MLP), like climate change and peak oil, often the prime motivating factors for such groups are local: a lack of green space in their neighbourhood or a desire to have a 'better', more fulfilling life. Transition Towns seek after '*smaller scale appropriate technologies*' (2011, 1590).

This is a potential reason why such groups might not fit within the MLP typology. Another is that such small-scale groups may lack the desire or will to 'up-scale' from niche towards the regime level – the level required for a transition to occur, under MLP definition. However, even if there were a lack of an up-scaling desire, the continual proliferation of such cells may result in a 'network of niches' that, although individually small-scale, cover enough of a meshwork to have the requisite reach of a regime.

Transition in practice? Potential synergy

So what then is the potential coming together of these two approaches to transition? There are a number of conceptual barriers needing to be overcome. For example, the Transition Town movement understands its organisation after the fashion of a 'meshwork' as understood by Lefebvre (1991, 117–118; also Ingold 2007, 80). Meshwork is preferred to network here implying a flat hierarchy, but also that its constituent parts are interwoven rather than merely intersecting. The MLP and STS approaches to transition have previously looked at hierarchies and linear 'pathways' to sustainability. Many emergent examples of community transition – particularly the Transition Town movement – have settled on the term 'transition' due to its ecological heritage, something that perhaps wouldn't be shared by MLP advocates. As the Transition Town movement emphasises 'transition's' ecological heritage, the MLP, seen in this light, looks more like a technological abstraction. There is the potential that the only common ground between these two areas is one term – transition – a term that is invested with divergent meaning from both sides.

However, there are many potential threads that unite both areas, not only that they use the same lexical terminology – transition. It is also important to say that although above two divergent approaches have

been described, this is not another binary, such as that between the social and the technical that the sociotechnical approach sought to see beyond. We need to be careful not to play off meshworks against hierarchies, and to romantically set meshworks and their 'flatness' as being completely different from hierarchies normatively. Both characteristics exist on the ground, in both historical and current emergent analysis. Institutionalising anything involves a certain degree of codification. Although Transition Towns talk about valuing openness and avoiding 'us and them' thinking, this inevitably comes out – whether it is through statutes or implicit subtle means.

Both are normatively united too, in agreeing that the transition towards a sustainable energy system is a 'good' thing. Methodologically the MLP is light on contemporary examples, and focuses upon the individual as the unit of analysis. A community-based approach can add significant weight to the MLP's weaknesses and head off criticism like that above. Likewise Transition Towns, although seeing a rapid rise in examples, can be seen as theoretically light. Both these examples then can address each other's weaknesses.

The rest of this paper is devoted to exploring two ways that Transition Towns could become theoretically understandable by the MLP and its adherents. These are explored below, secondly emphasising such community initiatives as social innovations, but first as a niche outright.

Community as niche

The first way we can position these community initiatives is to see them as niches. This literature draws heavily on the role of technological innovations within the multi-level perspective (for example see Rip & Kemp 1998). Here niches are small-scale, under the radar developments, which are then 'up-scaled' to the level of mainstream. Seeing these new community initiatives in this theoretical context involves identifying them as niches. Transition Town cells would be emergent examples that seek to influence the mainstream of energy behaviours and interrelationships with technologies and energy. That some of these projects receive

their funding from the state (vicariously through their parent Transition branding) does not remove their niche status – but rather indicates that top-down funding support for the creation of such niches exists. These niches, if successful, would then grow to have a greater impact. This growth would be in size or extent of the projects, or may involve the creation of umbrella organisations, akin to the Transition Network.

Here, community initiatives are but one possible way to foster a transition to a low carbon future. Smith and Seyfang (2007) have explored the role that these niches ('spaces of innovation') have in 'growing' from grassroots organisations into the mainstream. Although these community developments can certainly be seen as small-scale, and possibly under the radar, it is unclear what a main-streaming would consist of. For example, given the size of some Transition groups, it would be impractical to consider an enlarged group size. More reasonable would be up-scaling into coalitions of similar groups, or the creating of umbrella organisations protecting the emergence of such small-scale initiatives, or the normalising of them. Often in Transition Town cells, part of the attempt is to alter what it means to belong to the group, towards being seen as particularly identified with more pro-environmental concerns. The different nature of such a venture would be diluted or even dissipate altogether if this was just one example amongst many. Part of the appeal of some of these groups may be their inherently unusual, or niche status.

As Buchs et al. (2011) point out the literature on niches remains overly technological in outlook and expectation. As such, viewing community initiatives as niches can rob them of their social particularity. Issues of space and place are not relevant for niches. How then can this be a topic for geographic analysis? Often one gets the sense that niches can exist on a plane of imminence, removed from their social particularity. Transition cells are very keen to not only brand each example with reference to their local situation, for example: Transition Edinburgh South, Transition Town Totnes, Transition North Howe. Such branding reflects not only the location of each group's genesis, but also humility in 'staying put', without any up-scaling ambitions. By focusing on entry into the mainstream, or regime, this analysis lacks an assessment of where the stirring for these grassroots examples come from in the first place. It assumes

that the trajectory is always upwards, outwards towards the mainstream/regime. The participants in community initiatives could very well have been there due to a desire to *reject* such normative expectations. By seeing case studies devoid of context, it can do violence to the singularity of such community initiatives. Below we look to another, more nuanced, way of moving beyond this impasse.

Community as a social innovation

Most problematic for this look at 'community' is the overly technological outlook of most of the literature on niche-innovations. As a reaction to this, there has emerged a friendly critique of this use of niches which describes them as social innovations. Social innovations are '*new forms of socio-economic organisation*' (Schreuer 2010, 101) that are '*operating in a field where they are dependent on the available technologies and on institutional framework conditions, but at the same time also actively shaping these environments to some extent through their own activities*' (2010, 105). Talk of 'social innovations' is in part an attempt to move away from technologically focused categories, as niches can be seen. Here the roll-out or adoption of the niche is part of a curve, targeting individual rational actors. Or indeed moving away from seeing the 'mainstream' or 'regime' as a coherent, stable system. Social innovations on the other hand, like 'community energy' projects in the UK (Walker 2008) or locally owned wind turbines in Denmark (Toke et al. 2008), in that context are all-important, and 'success' is by no means inevitable, or even clear what success might look like.

These innovations are social as they shift the focus from end user to a locally specific context where new forms of energy production and distribution can be experimented with, alongside the social arrangements that make this possible. It is this experimenting with existing technology in tweaked social settings that alters the relationship between the infrastructure, practices, and habits (Shove 2003). Social innovations then are not technologically focused, yet they do make use of emerging and existing technologies. They are concerned about reframing social habits and practices as much as in placing themselves as the 'early adopters' of new technological innovations.

This is all highly relevant for any study of community-based approaches to (un)environmental behaviours and practices. Seeing 'community' initiatives as a social innovation only goes so far however. It is still missing some of the core elements of geography – essential due to the earlier instance on the place-based particularity of each example. For the moment let us take the four key themes of geography to be space, place, scale, and environment, and also acknowledge that this is not un-contentious. Above we said that seeing community niches is geographically naive, in not recognising any of these four categories adequately. Social innovations address only one of these: scale (although an argument can be made for environment, as context). Social innovations are primarily a scalar category, they are small-scale and local. In order to do full justice to community initiatives like the emerging Transition Town movement they need solid sociological and geographical work too. Community, when used by the transition movement, is laden with overtones of connection to place, belonging to place, etc. – even when applied to communities of practice or interest.

One can describe these groups as social innovations, and to a certain extent this label can cover all community groups, energy cooperatives, and grassroots emergent examples (if not top-down imposed communities). However, 'community' groups need the extra spatial analysis due to 'community's' amorphous, phatic nature – its catch-all meaning.

In one of my projects, members of the initiative were explicitly encouraged to introduce themselves as being part of a 'community project' when talking to 'outsiders'. Would introducing themselves as members of a 'social innovation' have worked the same? So at least there is something about branding and perception that the label 'community' affords. Theoretically too, the legacy of community as a traditional, warm-feeling, safe concept is part of why these projects cannot be fully understood as social innovations. These are geographic reasons; questions of place and spatial imaginings are just as crucial in providing a comprehensive account of 'community' as environment and scale are.

Conclusion

This paper has looked at the role of community transitions in both an emerging contemporary theory and practice, attempting to find synergy between these. For the Transition Town movement and the MLP to be mutually intelligible two possible readings have been put forward. First, seeing community initiatives as niches involved reading evidence on the ground in light of a pre-existing theory. As much can be gained from this, it sits too close to a Weberian 'Ideal Type' model of understanding to be satisfactory. Secondly, and more promisingly, seeing community initiatives as social innovations is more respectful to these new initiatives. Although there are still issues of space and place to be addressed, it provides an area where more work can be done.

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