Transitions for the People:

Theory and Practice of 'Transition' and 'Resilience' in the UK's Transition Movement

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July 2009

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Tyndall Working Paper 134, July 2009

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Alex Haxeltine[1] and Gill Seyfang[2]

A paper presented at the 1st European Conference on Sustainability Transitions

Abstract

This paper presents an exploratory case study of a new community-led sustainability initiative in the UK called the Transition movement. In recent months Transition movement groups have appeared in a significant number of UK towns with the stated aim of responding to the question: "how can our community respond to the challenges, and opportunities, of Peak Oil and Climate Change?" [Transition Network 2008]. The originators of the initiative have developed a "comprehensive and creative process" aimed at awareness raising, network building, and, eventually, a community-defined and community-led plan for a transition over a 15-20 year timescale. The parallels to the transition management approach being pioneered in the Netherlands and elsewhere are immediate and fascinating, but are they merely superficial? What are the actual differences and similarities between this emerging civil society movement and academic discourse and research on sustainability transitions? The resilience and transition frameworks are briefly presented as two ways of using a systems framing to understand, and inform, the governance of social and technical change in the context of sustainability. Using a combination of survey results, participant observation and documentary sources, we then explore how the terms *transition* and *resilience* are being used in the discourse of the Transition movement. The paper then explores the similarities and differences between how the terms are used in the academic literature versus the Transition movement. Finally, the analysis is employed to generate insights about the practical use of the notions of transition and resilience in civil society contexts that involve "lay practitioners", and how these insights in turn might inform research on transitions and resilience.

[1]Tyndall Centre for Climate Change Research
School of Environmental Sciences,
University of East Anglia,
Norwich, NR4 7TJ, UK
alex.haxeltine@uea.ac.uk

[2]Centre for Social and Economic Research on the Global Environment (CSERGE),
School of Environmental Sciences,
University of East Anglia,
Norwich, NR4 7TJ, UK
g.seyfang@uea.ac.uk

1 Introduction

The Transitions movement is empirically interesting because it engages with systems of provision and seeks to institutionalise new (resilient and low-carbon) social institutions and social norms, unlike individualistic policy instruments for pro-environmental behaviour change (Seyfang, 2009). The Transitions movement explicitly uses the notions of resilience and transition, and incorporates them within an overall approach to a community-level action to address the threat of climate change and peak-oil.

There is much of interest here, for academics of sustainability transitions and resilience, yet the movement has until now been largely unresearched (Smith, 2009 and North, 2009 are early attempts to get to grips with the values and meanings of the movement). In order to address that knowledge gap, we present new empirical findings from the first survey of UK Transition Initiatives. This survey used open- and closed-ended questions to collect basic information about the origins, development, character and activities of the UK's Transition Initiatives. The online survey was conducted during February 2009, with email invitations sent to coordinators of all 94 Transition initiatives in the UK. Two follow-up reminders were sent, and a total of 74 responses were attained (an outstanding response rate of 79%).

Section 2 of this paper provides a succinct framing of the literatures on resilience in socio-ecological systems and transitions in socio-technical systems. Section 3.1 then introduces the transition movement, providing an overview of how it is framed, its recent rapid growth, and the types of activity engaged in. Sections 3.2 and 3.3 then provide an analysis of how the concepts of transition and resilience respectively are being used in the movement. Section 4 provides a conclusion highlighting both insights from the literature that could inform the movement, and the ways in which the analysis points to implications for research on resilience and transitions.

This paper represents work in progress, and as such we invite comment from academics and Transition practitioners alike, as we develop our research into this new social movement. Our overarching aim is to open up the subject for enquiry, to help the movement understand itself better through empirical research, to challenge the assumptions made by the movement in the light of academic thought, and to offer ideas and suggestions about how the movement might develop in the future. We therefore position ourselves as 'critical friends' to the Transition movement, offering this paper as a stimulus to deeper thought about the growth and strategic development of the movement, in order to achieve wider influence.

2 Resilience and Transitions Literatures

The literature on transitions and transition management in socio-technical systems

There is currently a growing interest in socio-technical transitions in the context of debates about how modern industrial societies can achieve a sustainable development. Understanding transitions is especially important when dominant 'solutions' (and the socio-technical systems that deliver these) contribute to unsustainable development and when novel solutions might offer more sustainable alternatives, or when we face persistent problems that cannot be solved using only the currently dominant solutions. In the context of debates about sustainability, we are interested in understanding the processes and patterns of competition among established

and novel solutions to questions of production and consumption. We are interested in how novel and radical solutions emerge (as socio-technical 'niches') and become sufficiently powerful to challenge and, ultimately, overthrow a dominant solution (the prevailing 'regime' of production and consumption including the associated practices and set of actors) resulting in a transition. Other patterns of transition are also potentially important, including those involving a radical overhaul of the structure and practices of a dominant regime which maintains the power of the dominant actors but nevertheless provides for a new 'solution' to take over with radically different features and performance.

In recent years a literature on sustainability transitions has emerged (Rip and Kemp, 1998; Rotmans et al, 2001; Smith et al, 2005; Geels, 2005b; Rotmans 2006; Loorbach 2007), with a number of large-scale research projects in the Netherlands in particular. Drawing explicitly on insights from studies of past socio-technical transitions, it offers both a conceptual framework and nascent management tools for understanding and governing transitions.

The transitions literature develops the notion of socio-technical niches as protected spaces where new social and technical practices can develop. It juxtaposes the niche against a dominant socio-technical regime and has surveyed many empirical examples in an attempt to understand the dynamics of how niches can grow and eventually oust a dominant regime (Geels, 2005a, 2005b; Geels and Schot, 2007). The pro-active creation and management of such niches, with the aim of instigating transitions, has become known as Strategic Niche Management (SNM) (Kemp, Schot and Hoogma, 1998; Schot and Geels, 2008).

The transitions management literature generally deals with niches of technological innovations, developing within market contexts. Extending this concept into the social economy, Seyfang and Smith (2007) propose a model of 'grassroots innovations' to describe community-led, value-driven initiatives for sustainability, which respond to local problems and develop innovative socio-economic arrangements as much as (or in preference to) new technologies. Seeing these activities as *innovative* allows us to consider the scope for the diffusion of such innovations into mainstream society, and learn from existing knowledge about strategic niche management. These grassroots innovations have characteristics, benefits and challenges which are distinct from those normally considered in the niche-management literature, with implications for practice and diffusion. The benefits of grassroots innovations for sustainable development derive principally from their creation of a space for the development of new ideas and practices, for experimenting with new systems of provision, and for enabling people to express their 'alternative' green and socially progressive values, and from the tangible achievement of environmental and social sustainability improvements, albeit on a small scale (Seyfang and Smith, 2007). Conversely, the main challenges faced by grassroots innovations are related to the struggle to maintain a viable sustainable socio-technical space within a wider unsustainable regime. This translates into issues around securing funding, which in turn affects possibilities for institutionalisation and consolidating learning, managing organisational change, and diffusing oppositional ideas into wider society (Seyfang, 2009; Smith, 2006, 2007).

There are three ways in which niches can influence the regime. They can *replicate*, bringing about aggregative changes through many small initiatives; they can *grow in scale* and attract more participants and actors; and they can *translate* their ideas into mainstream settings. This third option is problematic when niches are formed in opposition to the regime, as there is a fundamental clash of values, ideas and practices. This gap can be closed by either the niche adapting to become more accessible to mainstream audiences, or by the regime accommodating niche ideas, perhaps through regulation (Smith, 2007; Seyfang, 2009).

The literature on resilience in socio-ecological systems

The term resilience has a wide range of different uses in different disciplines and areas of political and economic life. The usage of most relevance to discussions of sustainability is the body of research on resilience in socio-ecological systems (Folke 2006; Gallopin 2006) that conceptualizes interacting human and ecological systems and seeks to inform practical intervention through adaptive management.

In a recent review article Carl Folke (a leader in the field) describes the origins of what he terms the *resilience perspective* (Folke 2006). Folke describes how the term originated in one particular branch of ecology in the 1960–1970s, where a better understanding of system dynamics inspired both social and environmental scientists to challenge the then dominant stable equilibrium view of social and ecological systems, leading to the more dynamic formulation of the concept of resilience (Holling 1973, 1986, 2001). He goes on to state that the resulting resilience approach "emphasizes non-linear dynamics, thresholds, uncertainty and surprise, how periods of gradual change interplay with periods of rapid change and how such dynamics interact across temporal and spatial scales" (Folke 2006).

Although it has grown out of empirical work on ecosystem dynamics, interpreted through mathematical models, there has in recent years been an accelerating research effort to integrate the social dimension with many areas of the social sciences involved in related studies of socio-ecological systems (Folke 2006). Folke explains how much early work on resilience focused on resilience as "the capacity to absorb shocks and still maintain function" (Folke 2006) but there is another aspect of resilience that "concerns the capacity for renewal, re-organization and development, which has been less in focus but is essential for the sustainability discourse….in a resilient social-ecological system, disturbance has the potential to create opportunity for doing new things, for innovation and for development" (Folke 2006). The converse idea being that such a capacity will be lacking in a system with a low resilience.

Following Carpenter et al. (2001), Folke (2006) interprets social–ecological resilience as:
1) the amount of disturbance a system can absorb and still remain within the same state or domain of attraction,
2) the degree to which the system is capable of self-organization (versus lack of organization, or organization forced by external factors), and
3) the degree to which the system can build and increase the capacity for learning and adaptation.

Taken in this wider sense resilience provides a broad approach, or way thinking about linked social and ecological systems. Resilience as the concept has evolved for social-ecological systems then is not just about the ability to maintain a status quo, but is also about the ability of the system to adapt, innovate and transform under certain conditions, "into new more desirable configurations" (Folke 2006). Overall the potential of the resilience perspective is seen as being to "shift policies from those that aspire to control change in systems assumed to be stable, to managing the capacity of social–ecological systems to cope with, adapt to, and shape change" (Folke 2006). Resilience theory as it has developed then is a powerful conceptual framework for understanding (and steering) change in socio-ecological systems.

Both the transitions and resilience literatures deal with approaches to managing change in human systems; the two approaches have different emphasises, deriving in part from their different origins. Recent research has begun to explore the similarities and differences between the transitions and resilience approaches (Foxon et al., 2008; Smith and Stirling,

2008; van der Brugge, 2009). The sustainability transitions approach focuses on systems-level innovation as a means of addressing problems, while the resilience approach has traditionally focused on the ability of a system to maintain its structure and function in the face of disturbance (part 1 of the definition above); however (as hinted by parts 2 and 3 of the definition above) resilience researchers are now also very concerned with *transformations* in social-ecological systems. Here we assume that there is great potential for both approaches to contribute to understanding and steering systems change in the context of achieving more sustainable development pathways in the coming years.

3 Analysing the Transition Movement

3.1 Introducing the Transition Movement

The Transition movement aims to mobilise community action and foster public empowerment and engagement around climate change, with the objective of catalysing a transition to a low-carbon economy (www.transitiontowns.org). The Transition Town idea was developed in Kinsale, Northern Ireland, in 2005 by Rob Hopkins, a permaculture teacher. He instigated a community-designed 'Energy Descent Action Plan' which set out practical steps that might be taken by Kinsale to reduce its carbon emissions and prepare for a post-cheap-oil future – in terms of creating transitions to more sustainable socio-technical systems and infrastructures. In practice this translates as "build[ing] the town's resilience, that is, its ability to withstand shocks from the outside, through more self reliant in areas such as food, energy, health care, jobs and economics" (Transition Town Totnes, 2008). The movement's rationale is: "Climate change makes this carbon reduction transition essential; Peak oil makes it inevitable; Transition initiatives make it feasible, viable and attractive (as far we can tell so far...)" (Transition Towns Wiki, 2009). Moving from concept to application, Hopkins outlines the four key assumptions of the movement:

> "1: that life with dramatically lower energy consumption is inevitable, and that it's better to plan for it than to be taken by surprise;
>
> 2: that our settlements and communities presently lack the resilience to enable them to weather the severe energy shocks that will accompany peak oil;
>
> 3: that we have to act collectively, and we have to act now;
>
> 4: that by unleashing the collective genius of those around us to creatively and proactively plan our energy descent, we can build ways of living that are more connected, more enriching and that recognise the biological limits of our planet." Hopkins (2008: 134)

The role of local Transition initiatives is to engage communities in a process of envisioning positive scenarios of a post-oil future, and then begin the work of building the infrastructure, habits and institutions to move towards that future: "Transition Initiatives are an emerging and evolving approach to community-level sustainability" (Hopkins, 2008:134).

This network of grassroots initiatives has been growing rapidly in the UK and internationally, and is notable for its reinvigoration of citizen-led environmental action and its distinct focus on the problem of 'peak oil' as a framing device and driver for change. The first Transition

Town was Totnes in the UK, formed in autumn 2006 and by February 2009 there were 94 Transition Towns, Villages, Cities and Islands in the UK and a further 40 around the world, principally in Australia, New Zealand and the USA (Transition Towns Wiki 2009). The Transition movement has to date been very successful at replicating its model of community-led initiatives. In addition, Transition Network Ltd is a formally-constituted body which supports and coordinates activities among local groups (Hopkins and Lipman, 2009).

Who sets up these Transition groups? The survey reveals that the vast majority (89.0%) are set up by individual citizens   (76.7% are set up by several individuals coming together to instigate the group, and another 12.3% are set up by just one person at the outset). At the same time, 19.2% have one or more pre-existing groups involved in setting up the group. Only one of the respondent groups (1.4%) had a business involved in setting up the group, and none of them were started by local councils. This finding substantiates the movement's claims to be a citizens' movement, demonstrating energy and action from the grassroots. In the UK, the geographical profile of the Transition movement was initially strongly geared towards small market towns (following Totnes, many of the first projects were based in rural south-west England), as being the model for implementation of this type of grassroots action, and the movement has specifically focused on replication of small-scale initiatives rather than attempting to grow in scale. Currently, over half the UK's initiatives (52.2%) are based in small towns (over half of which also cover a surrounding rural area). Consequently, there have been debates about how to adapt the model to large town and city scales (27.5% of the UK's initiatives cover a whole large town or city), with moves towards a 'hub-and-spoke' model of coordinating groups and neighbourhood initiatives in cities such as Bristol, Liverpool and Nottingham (8.7% cover part of a large town or city). Finally, there has not been a great deal of effort at translating ideas into mainstream settings, most likely because the movement sees itself as oppositional and prefigurative of a more sustainable future regime.

While each Transition initiative develops its own action plans and priorities, there are common themes and activities which have developed throughout the movement. Among these are: local energy generation; local food production; farmers markets; community gardening and composting; designing and building eco-housing; local currencies; personal development work; skill-sharing and education; recycling and repair schemes; car-sharing, and promoting cycling; supporting energy demand-reduction through self-help clubs, and so on. Though each activity might appear piecemeal and not particularly radical, a deeper examination reveals that they all aim to offer some aspect of a alternative set of systems of provision, based around deeper green values and a rejection of consumerism. For instance, creating localised food systems cuts out the role of supermarkets; car-sharing rejects the association of car-ownership with status and autonomy; self-help skills exchange promote mutual aid and reciprocity instead of commodified exchange through the market. What this diverse range of activities shares is an emphasis on community-building and collective action as a pre-requisite and benefit of learning to imagine and pre-figuratively practice what it means to live in a low-carbon economy (Hopkins, 2008). The aim is to demonstrate practical, positive solutions in the here and now, and so encourage people to shift their consumption patterns towards this 'post-oil' model, and hence to prepare for the transition.

3.2 Sustainability Transitions and the Transition Movement

The Framing of Transitions in the Transition Movement

The Transition movement does not explicitly define its use of the word 'transition', even omitting it from the list of definitions given in a recent report on the Network (Hopkins and Lipman, 2009: 6). Inferring its meaning from the frequent usage in the literature, it is seen as a passing-through from one state to another, eg '… the monumental transition necessitated by the passing of the Age of Cheap Oil' (Hopkins, 2008: 50). The transition is from the current oil-dependent industry and lifestyle of consumer economies, to a future 'end of suburbia' scenario where oil is increasingly scarce and expensive, and much that we take for granted about our lifestyles is lost: "The Age of Cheap Oil is rapidly coming upon us, and life will radically change, whether we want it to or not… I am not afraid of a world with less consumerism, less 'stuff' and no economic growth" (ibid: 15). This 'Age of Cheap Oil' refers to the period from 1859 to the present day (Hopkins, 2008: 17). Hopkins gives credit for the term 'transition' to fellow Kinsale activist Louise Rooney, who coined the term 'Transition Design' in reference to the work involved in putting the Energy Descent Action Plan into practice. He says "I love the term, and see the work I am doing as looking into a slightly different aspect of transitions, that of how one really roots it in a culture and creates a 'culture of transition' … this is about transition to where we want to get to, how we do it, and what it might look like" (Hopkins, n.d.)[1] It is clear, then, that the coincidence of terminology with the transitions management literature is just that, a coincidence, and that the movement does not draw explicitly from the academic literature.

So, where is the agency located in this transition? What are its drivers? According to these principles, we can see that for the or managing transitions in regimes, to better adapt to evolving landscape pressures. Instead, the Transition movement is responding to those landscape pressures at a micro level, and seeking to grow a niche of new infrastructure and practices which can replace the incumbent regime when that regime fails to function. The *agency* in the Transitions movement model is located at several levels, and is concerned with managing this transition. Certainly national and international governments are recognised as having important roles to play, but the focus of the Transition movement is on community-level action, because they argue that without the engagement, energy and collective action of communities working together, ultimately political processes will fail to catalyse the changes needed. Interestingly, the existing regime is not broadly engaged with (other than to suggest making links with local and national government, and identifying the need for national and international action). Furthermore, there is a determined a-political stance among the movement, which aims to penetrate 'under the radar' of existing political conflicts, presenting an apparently consensual view of the reality of the transitions to occur, and the good sense of their proposed response (Hopkins, 2008). This avoidance of political analysis is at the heart of Trapese's (2008) critique of the movement. They argue that responding to peak oil and climate change without addressing the root causes of those problems (ie capitalist consumerist economies) is naive and doomed to incorporation. So, rather than contesting or contending with the regime, the movement seems to assume the existing regime will wither away (North, 2009) and leave an agency vacuum, into which Transition initiatives can move, offering a more positive future scenario than the societal collapse or authoritarian green state that might otherwise emerge.

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[1] Thanks to Noel Longhurst for pointing out this blog post.

Geels and Schot (2007) present a four-fold typology of possible transition pathways which derive from a range of possible niche-regime interactions. Their theory proposes that the factors determining which pathway is used are a combination of whether niches are sufficiently well-developed to compete with regimes (as opposed to being symbiotically co-opted), and the extent to which disruptive landscape pressures are exerted on regimes (reinforcing landscape pressures are assumed to stabilise regimes, preventing niche-led transitions). As we have seen, Transition initiatives are formed as alternative value spaces to mainstream socio-technical systems, and so their ability to act symbiotically for incremental improvements is limited (however, as Smith (2006) shows, elements of their practices can be adopted by regime actors, as has been seen with the growth of organic food). This rules out two of Geels and Schot's more moderate pathways ('regime transformation', and 'regime reconfiguration', both of which experience moderate landscape pressure) as possible trajectories of change. The remaining two pathways both result from sudden disruptive 'avalanche change' landscape pressures (p.409), and differ in the extent to which niches are able to compete with the regime. 'Technological substitution' occurs when a well-developed niche can exploit the weaknesses in a regime-under-pressure and grow to replace the regime. The final pathway, 'de-alignment and re-alignment' is followed when the regime is eroded by extreme landscape pressures, and society loses faith in its systems, but niches are not yet well-developed. In this scenario, several niches emerge offering different alternatives, and compete with each other until one emerges dominant.

The landscape pressures the Transition movement addressing are certainly significant, but the extent to which they are 'avalanche' and 'sudden' in character is unclear. Peak oil may be reached in the next decade or two, but its effects may be mitigated by new sources of fossil fuels, and technological substitutions in markets. The impetus for cutting greenhouse gas emissions is real and present, but its translation into action lacks immediacy and severity. We may therefore be looking at moderate, decades-long landscape changes, rather than the sudden catastrophic 'end of suburbia' scenario which the Transition movement portrays as its galvanising force (see for example Holmgren, 2005; Heinberg, 2004). Transition movement literature describes a breakdown of current socio-technical systems (drawing on films such as the 'end of suburbia' for example), which is portrayed as being reasonably immanent and sudden. Hopkins (2008:46-7) draws on a range of sources including Heinberg (2004), Holmgren, D. (2005), FEASTA (2006), Gallopin (2002) and Curry et al (2005) to describe several possible "scenarios from beyond the peak" from this crumbling of the regime, depending on whether civilisation adapts, collapses or evolves to the landscape pressures. These include business-as-usual techno-fixes, xenophobic protectionism of western economies, military control of oil resources and global conflicts, tribalism and enforced localisation, enlightened government-led energy transitions, and visionary earth stewardship.

The role of the Transition movement is seen as being to build a well-developed, innovative niche of resilient sustainability, to be ready to compete with the regime as it dies away, and so to avoid the (socially, ecologically and economically) less-desirable scenarios. Hopkins describes this role: "as well as helping people through the terminal decline of the current globalised oil-dependent infrastructure, we are also nurturing the emerging the emerging new localised economies that will replace it" (2008:50). This makes two key assumptions. The first is that the nature of the landscape pressure is sudden and 'avalanche change', rather than moderate and protracted, and consequently the regime will not be able to adapt, co-opting innovative solutions to transform or reconfigure itself, but will rather disintegrate and lose faith. The second is that the 'de-alignment and re-alignment' pathway is held up as the most possible future transition, complete with unappealing apocalyptic scenarios, but that the Transition movement can foster a prefigurative niche which can instead be ready to compete

with the regime in its moment of collapse, and so steer a 'Technological substitution' pathway instead. Following this logic, we can see that the aim of the Transition movement is therefore to grow niches where new infrastructures and ideas can be developed, in anticipation of the collapse of mainstream regimes. To some extent, their role is in fact paradoxical, as they profess to be responding to landscape change while building a niche ready to replace the crumbling regime, yet part of what they do is aim to develop lots of initiatives within a niche, and growing it through replication and scaling to eventually offer people new sociotechnical systems of provision (for food, transport, education, housing, energy etc). This has the potential impact of potentially *displacing* the regime, by achieving a tipping point whereby it becomes *normal* to practice these greener low-carbon resilient-community values. The next section considers this idea in greater depth.

A critique of the Transition movement as a socio-technical niche

Can the Transition movement can be conceived as a grassroots innovation, a socio-technical *niche* comprising many constituent *projects* (individual Transition towns, cities, villages etc) where new social infrastructure and institutions, value sets and priorities, are practiced? Certainly the prefigurative nature of many Transition projects, and the alternative green values expressed therein indicate that Transition initiatives can be seen as experimental green projects within a niche movement. Similarly, the movement appears to be addressing some of the principal challenges faced by grassroots innovations, from the outset, with specific measures in place to try and overcome these limitations: taking networking and institutionalisation seriously, consolidating learning processes, thinking carefully about extending their appeal beyond the niche, and so on.

If we adopt the socio-technical niche model of the Transition movement as a grassroots innovation, we can now map Transition movement activities onto the strategic niche management literature, to assess how this practical experience relates to theory. What can the transitions management literature say about how Transition initiatives might flourish and increase their impact? Kemp et al (1998) identify three key processes for successful niche-growth and emergence: managing expectations; building social networks, and learning. Expectation management concerns how niches present themselves to external audiences, and whether they live up to the promises they make about performance and effectiveness. To best support niche emergence, expectations should be widely shared, specific, realistic and achievable. Networking activities are claimed to best support niches when they embrace many different stakeholders, and those stakeholders can call on resources from their organisations to bear on supporting the niche's emergence. Learning processes are held to be most effective when they contribute not only to everyday knowledge and expertise, but also to 'second-order learning' wherein people question the assumptions and constraints of mainstream systems altogether (ibid). To what extent does the Transition movement attend to these factors?

Cultivating expectations – or visions – is a key element of the internal Transition process for these initiatives. Hopkins writes "The tool of visioning offers a powerful new approach for environmental campaigners. We have become so accustomed of campaigning against things we have lost sight of where it is we want to go" (Hopkins, 2008:98). Visioning is intended to psychologically predispose participants to making effective changes, and simultaneously tackling feelings of helplessness in the face of uncertain futures. Scenario-planning and back-casting techniques encourage citizens to imagine positive futures and strategise how to achieve them, collectively, to create shared values and buy-in for action plans for the present. "Transition Initiatives are based on a dedication to the creation of tangible, clearly expressed and practical visions of the community in question beyond its present-day dependence on

fossil fuels… The generation of new stories and myths are central to this visioning work" (Hopkins and Lipman, 2009:7).

Expectations are important, externally, too. The Transition Network serves as an accreditation organisation ensuring that 'official' Transition initiatives have met certain criteria before using the name Transition (Hopkins and Lipman, 2009). This is intended to ensure that when groups emerge as Transition initiatives, representing the international 'brand', they have thought through some of the issues around establishing as a group, and have put in place some of the steps considered essential (by the movement's founders) to forming a successful group (Brangwyn and Hopkins, 2008). This aims to protect the reputation of movement by avoiding badly-planned initiatives: a clear example of expectation-management, to ensure that dysfunctional and failing groups do not tarnish the Transition movement's image and disappoint external audiences. Efforts at marketing and brand management (see for example Transition Network (2009) on brand identity and usage) are salutary, as they address issues with other environmental social movements where haphazard organisation and poor communication tools leads to a generally inaccessible and unappealing message. However, this structure raises issues of relationships between projects and the niche: here they are tied in to a hierarchical relationship and contract, which some find restricting and overly-controlling from the centre (Smith, 2009).

Networking is a core activity of the Transition movement, and is undoubtedly key to its rapid growth to date. The Transition Network was established in 2006 to "inspire, encourage, support, enable networking, [and] train" the growing movement of local projects (Hopkins and Lipman, 2009:15). It is the 'global field' carrier of niche ideas and practices which builds on, and in turn informs and supports, the development of individual projects on the ground (Geels and Raven, 2006). The niche level is where codification and institutionalisation takes place, and the Transition Network is a very good example of this, as it serves to facilitate sharing expertise and experience between local groups, consolidating learning through online resources, standardises 'transition thinking' through compulsory training for initiative organisers, providing speakers for events, offering consistent messages through media relations, and disseminating information through publications and consultancy (Hopkins and Lipman, 2009).

However, the networking described here is internal to the niche itself, supporting its own development, and there is currently no comparable movement-wide effort to network with external parties to aid niche emergence. Instead, local projects find support and partners where they can, and seek working relationships with other local organisations on an ad-hoc basis. A guiding principle for Transitioning communities is to 'build a bridge to local government', and the survey reveals that the vast majority (82.4%) of the UK's Transition initiatives have begun this process (and one or two had gained representation on Local Strategic Partnerships), and 86.5 had made links with other environmental groups. But links to other regime actors are not so common: three quarters (73.0%) have made links with other voluntary organisations, and although fewer groups are working with businesses (58.7%), charities (44.6%) and social enterprises (39.2%), these are still important partners for a significant number of initiatives, indicating that overall the movement is active in forging links with a wide range of other community actors. Only a fifth (21.6%) are working with political parties, and less than one in ten (8.1%) have engaged with national government. This partnership profile may be due to the movement's newness, but it may also relate to the previously-noted deliberate neglect of regime actors such as mainstream food, clothing, energy businesses, who are seen as being part of the problem, and being founded on an unsustainable (oil-dependent) business model.

Finally, processes of learning are considered key to the Transition movement, both internally and externally. Internal to the movement's activists, the Network offers codified learning as discussed above. Externally, learning is also built-in to the process of becoming a Transition initiative, and is the second of '12 Steps of Transition' which are recommended as being "key elements of [the group's] journey" (Brangwyn and Hopkins, 2008:24). When new projects are initiated, the first activity usually undertaken is a phase of 'awareness-raising', through public talks and film shows of movies such as 'An Inconvenient Truth', 'The End of Suburbia' and 'The Power Of Community' which deal with climate change, the impacts of peak oil and community responses to post-oil situations. The survey confirms this: the most commonly-reported activity was awareness-raising (94.6% of respondents), ranking even above the 89.2% of groups that had set up a steering group.

These films have the deliberate effect of shaking people's faith in the current socio-technical systems on which our lifestyles depend, disrupting commonly-held assumptions, and so prompting a fundamental reassessment of beliefs, and the emergence of new cognitive frames. The Transition Initiatives Primer describes a number of films considered suitable for catalysing these processes, and it is notable that they nearly all have high 'doom ratings' and low 'solutions ratings', and that some are considered difficult to watch (ie very pessimistic) even for committed Transitioners (Brangwyn and Hopkins, 2008:42-8). Interestingly, this conflicts with Hopkins' statements about the undesirability (and inefficacy) of shock-tactics to instigate personal change: he writes "rather than trying to terrify people into change through presenting them with visions of Collapse [scenarios], the Evolution scenarios could provide a vision of an end goal so enticing that society would want to engage in the transition towards them (Hopkins, 2008:45). Consequently, we have to question the impact that screenings of film shows like these have on prompting cognitive shifts among members of the public, given that they are considered at times unpalatable even for die-hard environmentalists. The experience of several groups, reported in the survey, is that the audiences for these screenings are principally 'insider' activists, rather than 'newcomer' members of the public, and that numbers dwindle over a season of screenings and discussions. So while these awareness-raising activities may be effective at announcing the new Transition initiative to already-interested people in the locality, and attracting potential participants (therefore serving the needs of internal project-formation), they would appear to be ineffective at engaging with the public in general (external learning). Some questioned the wisdom of promoting these films and intellectual discussions first to galvanise activity, and felt that public engagement would be better achieved by offering tangible action and practical projects to become involved with, and let the education seep through as a secondary effect. This debate raises issues familiar from questions of behaviour change and sustainable consumption: is changing minds necessary in order to change behaviour? or can new behaviours be prompted for practical reasons, with changing values following behind?

Strategic niche management for the Transition movement

The preceding analysis has demonstrated that the Transition movement can be seen as a grassroots innovation, and the Network has worked hard to form an effective niche, growing the movement quickly through the replication of experiments. If the movement aims to exist for its own sake, then as a simple niche it is succeeding. But as its objectives include catalysing or preparing for a coming regime shift, then attention must be paid to how that influence might occur. Drawing on Strategic Niche Management theory (SNM), we present some preliminary recommendations for action, and areas where SNM would indicate niches need to concentrate their efforts, in order to influence wider societal systems, thinking about networking, expectations and learning, in turn. We stress that the suitability of these

recommendations for this social movement is not taken for granted: it may be that SNM cannot adequately capture the rich, value-led character of grassroots innovations, and its prescriptions are not appropriate; this is an empirical question for further research.

1) Engage more with the regime. Wider networking efforts outside the niche could be formalised and invested in, to build bridges with actors in mainstream systems, eg bus companies, developers, supermarkets. These links would spread the Transition message, reach to a wider audience, and potentially enrol resources to support activities. If the assumption is that these actors and their regimes will lose power and eventually disappear, as oil prices rise and climate change forces deep cuts in greenhouse gas emissions, this could be seen as politically naïve: capitalist systems are well-practised at adapting to crises (Trapese, 2008). Alternatively, it may be found that the value-clash between the niche socio-technical system and the regime precludes the mutual exchange of ideas, but a niche that intends to grow and influence wider systems cannot risk stagnating in a small group of like-minded activists; it must communicate effectively with wider audiences. Intermediaries may be an option for translating the Transition movement's ideas into a more accessible format.

2) Deliver tangible opportunities for action. Managing expectations among the wider public is a vital part of niche management, but there is more to consider than branding and logos. It would be valuable to consider how Transition initiatives can publically convey messages and visions about what the initiative can *deliver* to the public in terms of practical opportunities for action. In addition, the majority of people will not want to be involved as an organiser, so the movement must communicate what it offers to a wider, less-committed public, who may nevertheless become engaged through tangible projects which offer immediate benefits over the business-as-usual option.

3) Embrace social learning. Transition initiatives aim to offer practical activities in numerous areas, such as food-growing, learning skills, etc, which are all valuable opportunities for social learning. Currently the movement promotes educational information-giving events (which largely fail to attract audiences beyond a core of already-committed activists) as a prerequisite for behaviour change – employing the deficit model of change. But widespread public engagement will more likely be achieved through the *doing* of community-based activities which offer immediate benefits (cost-savings, pleasure, sociability, sense of achievement). Education about peak oil, climate change and so on then may happen as a result of immersion into pleasurable community activities, but is not a prerequisite for lifestyle-change. If this method of social learning were prioritised above the 'educational' film show or talk, it might be possible to attract a wider range of participants, while simultaneously meeting expectations to deliver change.

3.3 Resilience and the Transition Movement

The framing of resilience in the Transition movement

Resilience is identified as being one of the six core principles that underpin the Transition model, the Transition Handbook describes how "the rebuilding of resilience is, alongside the need to move rapidly to a zero carbon society, central to the Transition concept" (p142, Hopkins, 2008). In the Transitions Handbook, Rob Hopkins states that resilience provides a way of framing the changes that are required above and beyond reductions in carbon emissions; he continues: "indeed I will argue that cutting emissions without resilience-

building is ultimately futile" (Hopkins, 2008). The Transition model described in the handbook identifies resilience as a preferable normative goal to that of sustainability: "The concept of resilience goes far beyond the better known concept of sustainability" (Hopkins, 2008). The implication seems to be that with resilience as a goal, a better or more desirable type of change can be identified for a community.

Resilience is being used in the framing of the Transition model as a way of broadening the identification of what "change" is needed beyond just carbon emission reductions; it is interesting to note that the concept of resilience rather than sustainability is used to do this.

The specific language used is of "rebuilding resilience" - drawing on historical descriptions of towns in the UK around 100 years ago, the handbook argues that resilience has been decreased in recent decades. The narrative describes how localised patterns of production and consumption (and the associated skill sets and community cohesion) were eroded in a relentless shift to ever larger scale industrialized systems of production and consumption, made possible by the use of fossil fuel energy sources. Hopkins argues that there is now a great urgency to the need to rebuild resilience because of imminent disturbances (or shocks) in the form of peak-oil, climate change, and the associated impacts on economic systems and trading patterns (Hopkins, 2008). He links this urgency directly to our current oil dependency: "it is about looking at the Achilles heel of globalization, one from which there is no protection other than resilience: its degree of oil dependency" (Hopkins, 2008).

The framing of the Transition model provided in the handbook does explicitly draw upon the academic literature on resilience in socio-ecological systems (citing a 2006 introductory text by Brian Walker and David Salt for example), but what ideas are being taken from this literature, and to what extent is the resulting framework consistent with the interpretation of resilience quoted in section 2 of this paper? The Transition Handbook (Hopkins, 2008) cites studies of what makes *ecosystems* resilient, identifying: diversity, modularity and tightness of feedbacks:

Diversity: "relates to the number of different elements that comprise a particular system" (Hopkins, 2008, p.55). Hopkins suggests that this relates to: diversity of functions within our settlements; diversity of responses to potential challenges; diversity of land-use; and, diversity of solutions between different settlements.

Modularity: "the manner in which the components that make up a system are linked" (Walker and Salt 2006 quoted in Hopkins 2008, p.56). Hopkins (2008) states that: "maximizing modularity with more internal connections reduces vulnerability to any disruption of wider networks. Local food systems, local investment models, and so on, all add to this modularity…. meaning that we engage with the wider world but from an ethic of networking and information sharing rather than of mutual dependence" (Hopkins, 2008, p.56).

Tightness of feedbacks: "refers to how quickly and strongly the consequences of a change in one part of the system are felt and responded to in other parts" (Hopkins, 2008, p.56). Hopkins uses this idea to further critique globalization, describing how globalized systems make it harder to relate to the negative environmental impacts of industrialized society, because impacts may occur far away from the physical location of the consumer.

The handbook proceeds with a section entitled "life before oil wasn't all bad" (Hopkins, 2008, p.57) and does not really further unpack what building resilience might mean in practice. The comparison with the idea of resilience in ecosystems is made but not further

developed and the limitations of the metaphor are not really explored. Towards the end of the handbook a set of resilience indicators are presented, which include:

- Percentage of food consumed locally that was grown within a given radius;
- The percentage of local trade carried out in local currency;
- Percentage of essential goods manufactured within a given radius;
- Percentage of local building materials used in new housing developments.

These initial resilience indicators rely heavily on equating resilience with the re-localisation of systems of production and consumption. So the Transition Handbook could be said to provide a starting point for talking about resilience in a Transition Town, but it is still a long way from being clear about what is needed in practice. Furthermore the evidence from observation of the local Transition groups (during 2008-2009) is that they are in an equivalent situation of trying to frame multiple actions in terms of the building of resilience but relying heavily on equating resilience with a re-localisation of production-consumption patterns.

Recently Hopkins has drawn upon work on building community resilience developed over the last decade in Canada by the Canadian Centre for Community Renewal (CCCR 2000) to conduct a survey on 'skills, resilience and awareness' for Totnes (Hopkins 2009). The emphasis in the CCCR approach is on community building and community process and a resilient community is interpreted as one that takes intentional action to respond to, and influence, social and economic change (CCCR 2000).

A critique of the use of resilience in the Transition model

Next we provide a critique of the use of the concept of resilience in this type of setting. The analysis will cover five related points: firstly the issue of scale in building resilience; secondly, building resilience as a political process; thirdly, the importance of a capacity to innovate; fourthly the importance of feedbacks in the building of resilience; and, fifthly the emphasis on an inner transformation or transition in the framing and practice of the Transition movement

It seems that resilience is being used in the Transition model as an attractive and compelling way of framing the objective of change. It frames a broad agenda for change in a way that is alternative to the economic growth paradigm and that goes beyond (but includes) the solution-framing of carbon emissions reductions. Evidence from our survey data and participation in various Transition groups suggests that this broad framing of the term, including a romantic resonance with the desirable aspects of a recent past, is attractive to many participants in the Transition groups. It is arguably not unconnected from the rapid growth and spread of the initiative and allows people to see the Transition movement as being a potential way of achieving protection from undesirable changes as they perceive them; or of reversing undesirable changes, as they perceive them.

We do acknowledge therefore that the vagueness of the current framing of resilience may certainly have its uses. Experience with local Transition groups demonstrates how this sort of framing of resilience can be very attractive in helping people identify positively with the aims of the movement. The Norwich Transition group, for example, has decided to develop a Norwich Resilience Plan as a central activity of the group. In the survey we conducted, the rebuilding of resilience was cited as being the single most important reason for wanting to be involved with the movement.

However, we suggest that as the initiative develops it will be important to develop a more sophisticated understanding of what sort of resilience is actually required in the coming years and how Transition initiatives can go about building it.

A specific issue is the extent to which resilience can be equated with a re-localisation. Throughout the current discourse, rebuilding resilience is associated with a re-localisation of systems of production and consumption. The set of "resilience indicators" given in the handbook, for example, is largely about the localisation of material and energy flows. To what extent does resilience theory agree with this framing? At a first encounter the connection makes a lot of sense, many towns and communities in the UK (such as Totnes, for example) one hundred years ago, used very little crude oil and were linked into trade patterns that were limited to a few specific (mostly non-essential) goods. In some respects then such a historical community might seem to provide a model that would be resilient to both oil price shocks and break downs in trade patterns. However, there are a number of problems with this equation, including:

- *Surprise shocks* - a fossil-fuel-free version of localisation may provide resilience to the possible threat of Peak Oil but not provide resilience against other types, perhaps unexpected, shocks. 'Surprise' shocks might arise from unforeseen (or poorly foreseen) impacts of climate change on e.g. food production, migration patterns or disease vectors. Climate change, however, is just one example of a possible source of surprise shocks, others might include the unforeseen impacts of 21st century technologies or the impacts of new but differing cultural and social movements.

- *Irreversibility in the system* – we have different aspirations for quality of life today (as compared to say 100 years ago) it can be argued that many people would not want to give up at least some elements of the current patterns of globalized goods and services. This implies that the path ahead is more one of an experimenting to see which goods and services may be regionalized or localized. Land-use patterns may also be effectively irreversible due to both current ownership patterns and e.g. the presence of physical infrastructure on previously agricultural land.

- *Time scale* - It might also be that the degree of re-skilling required (to mimic historical systems) cannot take place on the timescale required. It might also be that cultural norms in place 100 years ago can not be easily recreated and that these are really vital to maintaining the functioning of such communities.

Resilience theory highlights the fact that building resilience to a specified disturbance (such as Peak Oil) does not necessarily provide the same resilience to all possible disturbances. Some properties of a Transitioning community, such as strong community networks and diverse skill sets, may help provide resilience to most disturbances, while other properties may be very specific to one disturbance. If one were to take the position that the greatest shocks in the coming years may, in the end, turn out not to be the ones that we expected, then successfully building a specific resilience to an expected threat (such as Peak Oil) may not provide resilience against realized disturbances. So what may be required is to build resilience to specific threats in a way that also builds system properties that help in coping with diverse possible threats – implying, for example, a need for a capacity to innovate.

As outlined above the Transition handbook draws on resilience theory to highlight the importance of enhancing the modularity of systems. The resilience of different components or subsystems is therefore also an important consideration. A very high specific resilience in a subsystem can stifle change at the level of the whole system. This can result in a system with

an apparently high level of resilience being locked-in to certain patterns and incapable of transforming in the face of disturbances. So for the Transition model the challenge is to build an ability to withstand shocks and disturbances while still maintaining the potential for transformation of the system when that becomes the most appropriate solution. It is beyond the scope of this paper to attempt to systematically apply resilience theory to the Transition model; rather, here we merely highlight the areas that merit further attention.

North (2009) provides a really useful and in more in-depth critique of the way that the way that the Transition movement is currently using the notion of localization.

The resilience literature talks about how maintaining resilience is often down-played because it comes at a cost (e.g. see p119, Walker and Salt, 2006). So it can be 'profitable' to run-down resilience, as long as things don't go wrong. The Transition movement claims that this is what has happened to communities across the UK in recent decades.

Recognizing that resilience comes with an associated cost helps to introduce an appropriate level of realism in planning specific resilience building actions for specific Transition initiatives. It leads to recognition of the inevitable political conflicts, and associated economic obstacles, that will arise in any attempt to significantly re-build resilience in our communities (as opposed to seeing the rebuilding of resilience as only something that amoral vested interests could be against). It opens the space for a discussion of what the costs will be, how to frame those costs (i.e. if not in monetary terms, then how?), and what might be the arguments that would persuade people that building resilience in practice is as desirable as talking about it as a consensus building goal. It also points to the important question of - how much resilience is enough? The goal of building resilience becomes to then rebuild enough resilience rather to just build resilience. Of course there is the potential for win-win solutions where resilience is increased together with other benefits. For example, building more resilience into a local food system, may require a larger input of labour; this could be seen as a cost (in a conventional efficiency-focused approach) but if people are engaged in enjoyable, community building, health enhancing work it may actually be realized as a benefit to the overall functioning and well being of the community. Here we simply sketch some of the issues that need to be addressed, we suggest this type of approach could help to provide operational frameworks for building resilience in a Transitioning community.

The Transition movement is still very young and much work is in progress about resilience, as the many initiatives figure out the practical steps they are going to take to build resilience. What is occurring is a fascinating social experiment, and the analysis presented here is meant as a constructive contribution to exploring how to identify and direct desirable change in our communities. The Transition movement seems so far to have successfully used resilience as a motivating framing concept. The lack of specificity can be said to have had advantages. In moving forward to resilience building what is needed is both an understanding of what resilience is in practice (for each specific case) *and* the ability to make it happen on the ground (resources, motivated individuals, etc).

The current framing of resilience equates resilience with localisation in a rather unquestioning way, as demonstrated by the resilience indicators given in the Transition Handbook. We would argue that increasing any one of these indicators could actually either increase or decrease resilience to a specific disturbance, depending the exact nature of the disturbance and on the exact systemic changes used to enhance the indicator. We also argue that the desirable goal is not to simply increase such indicators as much as possible, but to find the right balance between resilience and other goals, such as quality of life and well being.

Without an adequate conceptual, analytical and operational framework for resilience, the operational activities of the initiative are at risk of being incoherent (at the system level) with the potential for positively intended actions to even have a negative impact on resilience, and with different actions having negative rather than synergistic impacts on overall resilience.

Two very positive aspects of both the Transition model (Hopkins 2008) and the way that the initiatives are developing in practice, are the emphasis on personal resilience and the psychological dimensions of the transition and the emphasis on the development of a culture of transition. The motivating factor in generating agency may come from a few individuals in the beginning but in the longer-term it will likely need to come from the culture that manages to establish itself. This is acknowledged in the Transition Handbook and discussed variously in the movement by comparison to a "War-time sense of community", or a local pride or sense of belonging or sense of place. It will likely be about breaking cultural patterns in centre-periphery relations in part through developing stronger local identities and stronger relationships with the bioregion of which the community is a part. This then leads to recognition of the importance of myth and story, and raises questions about what binds a community together when it starts to move beyond the cultural structures of a modern industrial growth society. Networks and community actions need to be set up as "learning" networks such that they are able to create and direct innovation from within rather than needing only to copy it from the outside. However, at the same time, networks also need to be able to (selectively and reflexively) learn rapidly from what is happening in other regions (and other Transition initiatives).

Building resilience through transition initiatives

To continue this analysis we next provide some recommendations aimed at informing new and developing Transition initiatives. The recommendations, or insights, are grouped around five themes, and aim to provide the basis for further work that might develop sets of operational resilience indicators for use in specific Transition initiatives.

1) Building resilience involves experimenting with the optimal, or most desirable, spatial scales for the production and consumption of goods and services. Building resilience should not be solely or simplistically correlated with a complete re-localisation of good and services. We suggest that, for many people, a more desirable future might be one where many products and services have been re-localized back to levels similar to 50-100 years ago, but where a knowledge economy in science, technology and certain cultural good and services continues to operate at regional-global scales. This opens up the future as uncharted territory, where the future will neither be like the past nor the present, but will learn from historical solutions.

Analysts of long-waves of technological change such as Carlota Perez (see Perez 2009) argue convincingly, based on historical analogies and theory, that we are currently in the middle of an ICT technological revolution that has the potential to lead to a new 'golden age' of widening economic growth and prosperity, provided we are able to achieve a step-wise shift to lifestyles and systems that use energy and resources in a sustainable manner. Only in a future that envisions a complete breakdown in global economic trade and governance patterns would a totally re-localized economy be the only option. It is not hard to imagine that such a future might involve breakdowns in healthcare, security and infrastructure provision that would create very severe challenges for local communities. It is not the purpose of this paper to speculate about the relative likelihood of two such diverse near-future scenarios, rather we wish to make the point that the Transition movement has much to offer in helping to achieve

the 'golden age' future pathway, even while also playing a role in building resilience in case of the (rather apocalyptic) second type of scenario.

To sustain itself the movement should find legitimacy in empowering people to discover their own answers to questions about the more desirable future they wish to be involved in creating. This will involve exploring new solutions to the question of scale in the provision of goods and services. As one participant in a Transition workshop put it: "I want to eat vegetables grown within a few miles of where I live but I don't want to live without the internet". As argued elsewhere in this paper, he movement should not rely on apocalyptic future scenarios as a motivator.

A town like Totnes is today affected by things going on in many other parts of the world, and the linking trade systems. Likewise actions in a town such as Totnes can have an effect on what happens in diverse other parts of the world. Although it is easy to equate the globalization of systems of production and consumption with decreasing resilience at a local level this is too simplistic, and the ways in which global trade and global networks can enhance local resilience need to be explored and experimented with in the coming years.

2) Building resilience is ultimately a political process which involves costs as well as benefits. Recognizing that resilience comes with an associated cost may introduce a level of realism into discussions of how to make it operational for a specific Transition initiative. It leads to recognition of the inevitable political conflicts, and associated economic obstacles, that will arise in any attempt to re-build resilience in our communities (as opposed to seeing the rebuilding of resilience as only something that amoral vested interests could be against). It opens the space for a discussion of what the costs will be, how to frame those costs (i.e. if not in monetary terms then how?), and what might be the arguments that would persuade people that building resilience in practice is as desirable as talking about it in theory.

3) Building and maintaining a capacity to innovate is likely to be an essential component of a resilient community in a world of unexpected (as well as expected) shocks. To explain this point we return to the interpretation of resilience provided in section 2. We argue that the type of community-level resilience that is now required is not (merely) one that indicates the capability to return to a previous state after a shock but rather one that indicates the ability to transform in quite radical ways in the face of shocks and disturbances. This will require the capacity to transform or innovate at the community level. We would also argue that while innovation is seen as being crucial to regional and national success in current policy frameworks, the current discourse on innovation does not sufficiently cover the types of social and community innovations that may form crucial responses to future shocks. Therefore what is required is neither a recreation of past approaches to innovation nor a continuation of the current model, but rather new approaches to community innovation that are driven by values, and notions of well being and resilience rather than seeing innovation as primarily a driver of economic growth.

In this context, it is important to not build specific resilience to an identified possible disturbance (such as Peak Oil) in a way that decreases resilience to potential new and unexpected shocks. In particular, we question whether increasing specific resilience to an oil shock through localisation oriented approaches might decrease resilience to other (as yet unidentified) shocks. Of course it then becomes an important question as to how to achieve this in practice. It is important to avoid a mindset that is locked-in to one specific threat (expected shock), but rather to develop (or access) early warning systems in the form of e.g. new scientific knowledge and assessment, or trends identified at the community level.

The capacity to innovative at the community level depends partly on the ability to create learning about how well or badly the community is doing (as landscape pressures develop and/or shocks are experienced) this requires process indicators and process feedbacks. Process indicators should be developed and linked (through process feedbacks) back to the steering of such Transition initiatives. The Transition model is clearly a learning-by-doing model, some things will work and others won't, so it is essential to have feedbacks in place which can monitor the quality of the process (as well as specific outcomes), reflect on this and then implement adjustments or changes as appropriate.

4) Re-building resilience requires strong feedbacks between ecological and social systems. As acknowledged in the Transition Handbook, resilience theory sees the importance of feedback between the social and ecological systems (Walker and Salt 2006). Resilience theory demonstrates how feedback between human and ecological systems is crucial and how this must link into the management approach. The feedbacks need ultimately to regulate material and energy flows, but it is a mistake to think only in these terms. Feedbacks, or relationships between the human community and the bioregion it is situated in, provide an important way of creating and maintaining the 'transition culture' that the movement seeks to create. Thus 'feedbacks' need to engage with sensual, aesthetic and spiritual dimensions of the individual and community experience. They need to be part of the community's co-creation of identity, motivation and joy *as well as* including technical information flows about ecosystem functioning, biodiversity, water quality, etc, etc. In the medium-term such relationships may be crucial to providing the motivating force for the continuation of a Transition initiative. In this respect, Transition initiatives can perhaps learn from the bioregional movement that developed in the US in recent decades, and which has (arguably) a more explicit emphasis on relationship to place (as bioregion).

5) The building of an inner resilience is important to the building of community resilience. The emphasis on the importance of individual transformation and the building of an inner resilience is an important feature of the Transition model. Many of the discussions that we have encountered in Transition meetings, workshops and social gatherings have focused on the ways in which the individual is isolated, disempowered and de-motivated in the consumer society, and the ways in which enhancing individual well being is therefore linked to transition. This aspect of the challenge of transition is explicitly acknowledged by the movement in a number of ways. For example, each Transition initiative has a "heart and soul" group that is actively exploring the psychological, emotional, aesthetic and spiritual dimensions of Transition. Some of these groups have been drawing on the work of Joanna Macey, and the "work that reconnects" that explicitly attempts to link an "inner world paradigm shift" with the outer process of change.

The transition training (a two-day training programme run by the Transition movement) draws on the work of several thinkers in the green and alternative movements to encourage exploration of how the logic of the consumer society becomes internalized and is deeply embedded in our patterns of thinking and behaviour, and how Transition involves finding ways of moving beyond this conditioning both at the individual and community levels.

This emphasis on the linking of inner and outer change, is a very particular feature of the transition movement and one that has attracted many people who previously experienced a disconnect at the personal or community level. In some ways it represents a linking of the environmental and social justice movements with psychotherapy and personal growth movements – it provides a space for the emergence of a growing, community-embedded

recognition of the deep links between problems conventionally seen as personal (anxiety, isolation, depression) and the structures of the modern consumer society.

To grow and develop this important aspect of the Transition model, it will be vital to continually address three main issues. Firstly, it will be important to refine and improve the framing narrative that is emerging to make sense of how the individual perceives her relationship to the current logic and systems of production of consumption, and how she can see the potential for personal and community transformation and renewal. The challenge is that such a narrative needs to be positively empowering rather increasing a sense of isolation. Secondly new tools are required to help people navigate these changes, in the first phase of establishing the movement a series of "off the peg" tools are being used, drawing, for example, on the work of Joanna Macey. In the next phase there is a great potential for developing new tools/techniques/approaches that draw on personal growth, psychotherapeutic and contemplative traditions but develop new approaches that are more appropriate to the needs of transitioning communities. Such tools should facilitate inner growth and the development of personal resilience in a way that is empowering rather than directional, and linked to community change and political awareness. Thirdly, to sustain the emergence of resilient individuals, new livelihoods and lifestyles will be required. So acting with the Transition initiative such individuals need to find ways of developing livelihoods and lifestyles that are consistent with their changing outlook.

4 Conclusions

The Transition movement is still quite new and very much a work in progress. It can be viewed as a fascinating social experiment, and the analysis presented here is intended as a constructive contribution to that experiment.

The movement has been framed in terms of building (or rebuilding) resilience in local communities. So far the movement seems to have successfully used resilience as a motivating framing concept. The lack of specificity used in the framing of resilience has probably contributed to resilience being perceived as an appealing goal by the wide range of citizens who have become involved with the movement. In moving forward to resilience building, however, what is needed is both an understanding of what building resilience might involve in practice (for specific geographical cases, and for different disturbances) *and* the ability to make it happen on the ground (resources, motivated individuals, etc).

The current operational framings of resilience used by the movement seem to equate building resilience with a (re-)localisation in a rather unreflective manner, as demonstrated, for example, by the resilience indicators proposed in the transition handbook (Hopkins 2008). The localisation of production and consumption patterns may provide part of the answer to building resilience against shocks such as climate change and peak oil. However there are alternatives, widely discussed in the literature, such as: distributed networked economies, non-material consumption, flows of electrons not goods, product to service switches, etc. We argue that equating localisation directly with resilience risks making a community more vulnerable to certain future shocks and disturbances - without an adequate conceptual and operational framework for resilience, the activities of the initiative are at risk of being counterproductive at the community level, with the possibility that actions aimed at enhancing resilience might actually have a negative impact on the communities ability to cope with specific shocks.

The success of the Transitions movement provides evidence in support of the usefulness of resilience as a framing for community action. Research on resilience should now support the process by demonstrating indicators at the level of a specific rural area or town / urban conurbation that can provide measures of increasing resilience. Likewise research is required to explore, for actual cases, the degree to which building resilience to a specific threat such as an oil price shock can also provide a "generic" resilience to climate change impacts or other "surprise" events.

This paper has also explored how the Transition movement might gain insights from the literature on transitions and transition management, analysing how the Transition movement can be seen as a grassroots innovation. The networks involved have worked hard to form an effective niche, growing the movement quickly through the replication of experiments. If the movement aims to exist for its own sake, then as a simple niche it is succeeding. But as its objectives include catalysing or preparing for a coming regime shift, then attention must be paid to how that influence might occur. Drawing on SNM theory, we have presented some preliminary recommendations for action, covering: engagement with the regime, delivering tangible opportunities for action (allowing wider public engagement), and embracing a community-based action-oriented model of social learning.

Reflecting on what lessons this practical initiative might contribute to the development of transition management theory, we can identify two key areas that deserve greater attention and might be ripe for further development. The first relates to processes of internal niche-formation and management: the Transition movement's experience to date has illustrated that the work involved in establishing the niche itself appears to demand attention to the same three key factors that Kemp et al (1998) claim are essential for niche-emergence and regime-influence. Managing expectations, building networks, and learning processes are all deliberately addressed within the movement niche, and appear to have contributed to its successful establishment. In other words, they are important *internal* factors, as well as external ones. The challenge for the Transition movement now is to apply those lessons and principles externally, and move beyond the niche. Secondly, we can begin to question the extent to which the theory is useful for understanding processes of social change. It currently seems to be rather mechanistic, and can sometimes appear to be poorly-suited to modelling *social* innovation and values (as elaborated in the grassroots innovation framework), and places too much focus on the technology side of the 'socio-technical'. In order to understand and model the kinds of social transitions needed for sustainable development, the theory needs to be rigorously tested in these new arenas of social innovation and social economy, and adapted or refined where possible to accommodate this emerging site of innovation.

The Transitions movement represents an example of a new type of civil society movement, with a focus on bringing together diverse parts of a community to act and produce change and innovation at the whole systems level. It has spread rapidly within the UK and other countries in a very short space of time. It may be that such initiatives become increasingly prominent in the coming years as a response to a perceived lack of action on critical environmental and sustainability issues at the regime level. The purpose of this paper has not been to address either the likelihood or desirability of such a development, but rather to make the point that if such movements are to have a long-term impact (in terms of quality of life and well being of citizens) it is vital that they are grounded in robust and scientifically informed conceptual frameworks of what sort of systemic change is actually needed and how it can be achieved. This paper has shown the way for a range of new research activities aimed at supporting and constructively critiquing such initiatives.

Acknowledgements

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Tyndall°Centre
for Climate Change Research

For further information please
contact

Javier Delgado-Esteban