Environment and Planning A 2008, volume 40, pages 1006 – 1014

doi:10.1068/a4004let

Letters to the editor

Dear Editor

Detour ahead: a response to Shove and Walker about the perilous road of transition management

In their commentary "CAUTION! Transitions ahead" Elizabeth Shove and Gordon Walker (2007) express concerns about the possibility of deliberately shifting technologies, practices, and social arrangements onto a more sustainable track. In this letter we want to respond to the points raised by Shove and Walker. All of their points are thoughtful points in their own right, but—as we will show—sometimes pointed wrongly. Before dealing with the four cautions of their essay, we would like to clarify some misconceptions about transition management. Although this is nowhere stated explicitly, we suspect that, despite the references to reflexivity, Shove and Walker perceive transition management to be some kind of social engineering, presupposing that individuals and organizations can steer complex systems of provision and consumption towards predefined, normative goals. These social engineering methods were rooted in classical systems theory, largely avoiding uncertainty and complexity. Perhaps transition management has a suggestion of social engineering but it is really a governance concept for exploring new paths in a reflexive manner. We developed the concept of transition management as a cyclical process of searching, experimenting, and learning, merely as a response to deterministic, blueprint-based steering methods used during the last decades.

The essentials of transition management

Transition management is a model of coevolutionary management of transformative change in societal systems through a process of searching, learning, and experimenting. Managing here means adjusting, adapting, and influencing rather than the command-and-control mode (Loorbach, 2007; Rotmans et al, 2001a; 2001b). The rationale behind transition management is that there are persistent problems for which there are no immediate solutions. By transforming the persistent problem into a visionary challenge, transition management explores a range of possible options and pathways, by carrying out a diversity of small-scale experiments. Based on what is learned form the transition experiments, the vision, agenda, and pathways are adjusted, if needed. Successful experiments are continued and can be scaled up; failed experiments are abandoned. Another round starts until some kind of convergence is reached. Transition management is thus a cyclical process of envisioning, agenda building, instrumenting, experimenting, and learning. Rather than focusing on a single, available solution, transition management explores various options and is aimed at guiding variation-selection processes into more sustainable directions, with the long-term aim of selecting the most sustainable option(s) and paths based on learning experiences.

Transition management is rooted in complex systems theory, with uncertainty and complexity as starting points, accepting that interaction processes produce unpredictable outcomes. We were able to connect with the literature on modern governance that emphasizes the impossibilities of top-down steering, looking for new modes of governance for transforming the plurality of interests into coordinated action (Eising and Kohler-Koch, 1999; March and Olson, 1995; Mayntz, 1993) through forms of network governance. Reflexivity is a key part of these new modes of governance, where transition management fits best into the emerging field of reflexive governance (Kemp and Loorbach, 2006; Voss and Kemp, 2005; Voss et al, 2006). So there is more reflexivity built into transition management than Shove and Walker acknowledge in their commentary.

Transition management is not about picking a trajectory or the implementation of a blueprint, but consists of the exploration of various system innovations in a forward-looking, adaptive manner. Transition policy relies on evolving portfolios and is not based on a single vision. This is important to realize because in this way it differs from the schemes described in Scott's book *Seeing Like a State* (1998). Transition management essentially relies on 'darwinististic' processes of variation and selection. It makes use of 'bottom-up' developments and long-term goals both at the national and the local level. The multilevel aspects are described by Loorbach (2007) and Kemp et al (2007a). The basic philosophy is that of *goal-oriented modulation*: the utilization of ongoing developments for societal goals.

After these general comments, we now turn to the four cautions as formulated by Shove and Walker (2007).

Caution 1: *Who are managing a transition, on what authority, and whose behalf? What are the everyday politics of transition management? And who wins and who loses as transitions are managed?*

Shove and Walker presuppose that a transition is managed by transition managers, in charge of steering the whole process. A transition, like any complex adaptive process, cannot be managed in the classical command-and-control, top-down sense. Control power is distributed over various actors, with different beliefs, interests, and resources. Transition management tries to utilize these for the sake of transitional change. By managing we mean creating space for front-runners and first movers and empowering them gradually. Creating space involves diverse activities: a long-term, ambitious vision creates time for new, challenging ideas within the incumbent regime; a joint agenda creates thrust among the parties involved; financial incentives create possibilities for niche players to develop innovative ideas; innovative, small-scale experiments create diversity at the niche level; empowering niche players means providing them with knowledge and removing barriers; and scaling up experiments enhances the emergence of a breakthrough. This array of activities falls within the scope of transition management (Rotmans, 2006).

The above activities are undertaken by a variety of players, without a clear hierarchy and without a clear demarcation of who is inside and who is outside 'the system'. These players are not so much 'transition managers' but each of them plays a particular role in the transition game. Some are playing at the strategic level, building up authority and legitimacy among high-level politicians and policy makers within the regime. Some are forming new coalitions involving new parties, whereas others are linking up existing experiments. Some 'transitionize' ordinary innovation experiments; others are instrumental in creating new arrangements to remove existing barriers. Some are involved in bureaucratic activities, whereas others develop practical guidelines for practitioners. So the everyday politics of transition management forms a tangled ball with no clear management structure (Loorbach, 2007). It involves negotiated processes by a multitude of actors, each with their own interests and beliefs, but connected with each other in various ways.[1]

So far all transition trajectories in the Netherlands and Belgium [see Paredis (2007) for a discussion of Belgian policies] operate under the flag of the government. The government initiated those trajectories, and has adopted transition management as an official policy line, linked up to the Fourth National Environmental Plan. This means

[1] We ourselves play various roles in these transition processes: advising the government, critically reflecting upon transition programs and projects, monitoring and observing transition trajectories (see Loorbach, 2007).

that transition policy is authorized by the Dutch Parliament and that the transition process is accountable to the Dutch Parliament. The potential disadvantage of this is that the process can be encapsulated by regime actors in various domains (energy, transport, water management) (Hendriks, 2007; Kern and Smith, 2007) and that the radical potential of system innovations becomes diluted.

Every transition will involve winners and losers. This is absolutely true. Who these winners and losers are is hard to say in the initiation or predevelopment phase. Initially, the only losers are those whose ideas for system innovation are not receiving attention and support (an example is concentrated solar power for which there is little interest among Dutch companies). In the long run, after subsequent selections, there will be clear winners and losers. This is intended and accepted by business. In the energy transition, transition paths are being selected as official paths, which means that they are eligible for support through the Unique Chances Subsidy Scheme (Unieke kansen regeling). In a few years time, a selection needs to be made: which projects to continue, which projects to scale up, and which ones to stop? This is a crucial step that the current transition trajectories have not yet faced. This is unlikely to be a consensual process and it is here that politics of transition management come in most vividly.

Caution 2: *What is to be monitored and how frequently? How to identify early signals of trajectories that take decades to unfold? And how to respond when relevant dynamic processes speed up or slow down?*

Transition trajectories are nonlinear processes with alternating fast and slow dynamics. Much of that complex dynamic remains hidden for quite some time before it comes to the surface. The waves are visible and seem to show the dynamics of a transition, while it is the undercurrent which really determines the rhythm and direction of a transition. The art is to recognize the seeds of transitional change in their early stages by tracing the emergent properties of a system (Rotmans and Rothman, 2003). A closer look reveals that transition configurations contain patterns and underlying mechanisms (de Haan, 2007; Geels and Schot, 2007). So in analytical terms it is essential to monitor the dynamics of a transition: the different stages of a transition, the undercurrent and related seeds of transitional change, the patterns, pathways, and mechanisms.

Quantitative indicators will be needed to measure progress. But in the beginning qualitative indicators will be most important: new coalitions formed, emerging networks, new types of discourse and a new language, a change in perspective, behaviour, and actions of actors involved, long-term and short-term objectives, vision and related pathways, outcomes of experiments and project results, measures, and instruments, different forms of learning (technical, conceptual, and social).

This kind of reflexive monitoring is currently under development (for which see Taanman et al, 2007) and is meant to give continuous feedback to people and parties involved in a transition process. In particular, for people in the interdepartmental directorate for energy transition, programme managers but also business managers, this feedback in terms of process and content is indispensable. It should aid the process of continuous adjustment, which is an integral part of transition management. In the case of the energy transition in the Netherlands an acceleration of the process has taken place under the influence of a growing sense of urgency due to anthropogenic climate change. The energy transition was placed at the heart of the new Dutch cabinet's environmental policy. The Minister for the Environment is now directing the energy transition process instead of the Minister for Economic Affairs. Biofuels are increasingly receiving criticism which biofuel actors must deal with: for instance,

by not using food crops for producing biofuels or by operating under a sustainability control scheme. This kind of upheaval cannot be foreseen or avoided and has its own autonomous dynamics.

Caution 3: *How to respond to transitions that are heading in an unsustainable direction? Is transition management capable of preventing nonsustainable transitions? And how to deal with the 'death' of undesirable systems?*

Thirty years of environmental policy have made the world more sustainable than it would have been otherwise, but achievements have been largely eroded by economic growth and patterns of consumption. The latest global study, the "Millennium Ecosystem Assessment", indicated that mankind has changed ecosystems much faster and more drastically in the last fifty years than in any other period in human history (Reid et al, 2005). There is growing awareness that this increasing pressure brought about by man's urge for expansion could lead to sudden changes (discontinuities, surprises), which will pose a serious threat to mankind. Examples include the outbreak of new diseases, changes in the regional climate, and plummeting stocks of fish. Symptoms of unsustainability in our society become manifest in the form of persistent problems (VROM, 2001), which are rooted in our societal structures, difficult to manage, and hard to grasp. There are no ready-made solutions for persistent problems and pseudo-solutions soon become part of the problem. Anticongestion policies, for instance, create space for more traffic, aggravating other problems. Persistent problems cannot be solved by current policies alone, nor can they be corrected by the market. Persistent problems require radical systemic changes, called transitions. So the very idea of transition management was meant to counter the mainstream unsustainable trend occurring in our present society. Examples of new developments that currently are not sustainable are resource-intensive Japanese toilets with heated seats, bottom-washers, and dryers, long-distance vacations, and super-sized cars such as SUVs.

The general discourse about sustainability helps to articulate those aspects that are less desirable from a societal point of view. Normally the solution is found in making existing trajectories more sustainable through various processes: cultural disapproval, regulation, and economic disincentives. Transition management says that one should look for alternative systems, whose development will be at the expense of existing systems. So the 'death' of (from a transition perspective) undesirable systems is a prerequisite for the 'birth' of more desirable (sustainable) systems. The availability of new systems helps to deal with the phaseout of the old ones, but clearly the phaseout of existing systems constitutes a formidable task. It could be pursued as part of transition management or separately from it.

Caution 4: *There is too great a focus on technical systems and infrastructures of provision and supply. This is only a narrow slice of a much wider social systemic change.*

Indeed, technical, infrastructure-bound systems are the focus of much of the literature on 'systems in transitions' (Berkhout et al, 2004; Elzen et al, 2004; Geels, 2005). The case studies underlying transition management are of a different nature. Representative examples of these case studies are described by Loorbach (2007). Regional examples (for instance, in Parkstad Limburg) focus on the development of a sustainable region. This involves a broad palette of social systemic change, including identity, social services, citizen participation, unemployment, health and ageing, mobility, economic infrastructure, and ecosystem services. Next to these regional examples, there are sectoral examples such as the energy and water transition. But these examples have no technological bias. The water transition example, for instance, analyzed by Van der Brugge el al (2005) focuses mainly on a change in cultural perspective,

as has occurred in the Netherlands during the past few decades: 'from stemming water to accommodating water'. Also the energy transition has a broad social focus from a transition management angle. We have warned against too small and too technical a focus for the energy transition (Rotmans et al, 2000), taking account of institutional, cultural, demographic, economic, ecological, and technological determinants that coevolve with no a priori ranking of importance. In fact, our transition management approach was developed as an answer to the rather narrow focus of the sociotechnical approach.

Shove and Walker are right in detecting a certain modernistic element. We are modernists in believing that ecological modernization is desirable. However, modernistic policies for system innovation are to be pursued in a reflexive manner, through the use of strategies of knowledge integration, anticipation of long-term effects, iterative participatory goal formulation, interactive strategy development, and evolving portfolios (Kemp and Loorbach, 2006). Transition management is thus a strategy of reflexive modernization. It accepts that there may be risks and rebound effects from system innovations, which must be anticipated and countered.

Concluding comments

The transition management model that is being used in the Netherlands to achieve systemic change is not a megalomaniac attempt to remake society, but a new governance model for interactions between market, state, and civil society. It is a model by which to work towards a sustainability transition, even when the very idea of achieving this is revealed as illusionary (O'Riordan, 1996; Rip, 2006). We make our histories but not our future. Yet we can do things that help to achieve better futures, even in the face of perplexing complexity and overwhelming uncertainty. The road to progress is not smooth and it is true that the further you travel, the harder it becomes to unravel: to undo things. Transition management helps to pursue policies for system innovation in a prudent way. It combines the advantages of incrementalism (doable steps which are not immediately disruptive) with those of planning (articulation of desirable futures and use of goals).

We still cannot answer unequivocally the question whether transition management really works. And it might take another decade before we can answer it. But the potential and positive effects of the transition management approach are clear and encouraging. These are reflected in the rapidly expanding practice of transition policies, research, and projects [described by Loorbach (2007) and Kemp et al (2007b)]. The problem space and solutions space are opened up, together with governance arrangements, which are oriented more towards system innovation. Perhaps we may have underestimated the difficulties that transition management involves in practice and perhaps we have overstated the scope of transition management, but we remain convinced that it is an attractive and useful model for governance towards sustainable development.

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Dear Editor

Transition Management™ and the politics of shape shifting

At the end of our set of cautions about transition management (Shove and Walker, 2007) we reflected on the necessary illusion of agency involved in the act of writing to an audience that might not be listening. Judging by the interest and discussion our cautions have generated, it seems that many others are willing to join the debate and that the questions we raise are not ours alone. In commenting on the robust response from Rotmans and Kemp (2008) we have a number of strategies available to us. One approach is to bare our teeth and take issue with inconsistencies and woolliness in their own argument and text. For instance, we could underline the evident existence of flesh-and-blood transition managers—in their words, "The Minister for the Environment is now directing the energy transition process" (page 1008)—and set this against their evasive denial that such managers exist. Or we could point to the disjunction between their self-rooting in "complex systems theory", the later comment "We make our histories but not our future" (page 10101), and the perilously linear "road" of their subtitle. But since observant readers can see these features for themselves, that's not the route we take.

A second possibility is to return more gently to our own text and seek to reinforce what we have already said: for instance, that we see transition management not as one technique, owned by a few and fenced in by a predetermined set of 'essential features', but rather as a broader field of endeavour with multiple possibilities—transition management rather than Transition Management™. We might also try to explain, perhaps more clearly than before, that, by arguing for an extension of transitions thinking to social practice, we were referring to the need to incorporate complex configurations of everyday life, not simply making the case for a "change in cultural perspective" or for adopting a "broad palette" (pages 1009 – 1010). If this was our strategy, we might take the chance to underline the point that our concerns about the 'winners and losers' in transition processes relate not to businesses who do or do not emerge as leaders of the pack, but rather to the very many social actors and bystanders whose lives and interests are wrapped up in processes of transition-managed sociotechnical change.

But again that is not the method we adopt. Instead, we take a third approach and seek to extend the debate by asking about the work that concepts of transition management accomplish. How does the terminology of transition management order and organise the fields in which it is deployed? What does it highlight and just as important what does it also throw into deeper, darker shadow?

Transformations of the type with which the transition management literature deals have evidently taken place before the term was coined. Accordingly, there must also have been transition managers, both broadly and narrowly defined. Broad in the sense that transitions have been carried by multiple actor-managers "with different

beliefs, interests, and resources" (page 1007) and narrow in the sense that some have specific capacities like those of deliberately "creating space for front-runners and first movers" (page 1007). Hughes's (1983) classic work on 'networks of power' illustrates this possibility. Less familiar, but also relevant, are accounts of innovation within the mafia, and of transitions in the realm of organised crime and illegal world markets (Paoli, 2002).

Neither of these examples is necessarily configured around "the long-term aim of selecting the most sustainable option(s)" (page 1006), yet such developments have proceeded by means of what one might retrospectively describe as processes of searching, learning, experimenting, adapting, adjusting, and influencing. Accordingly, practices of transition management precede their labelling as such, and in many cases, continue without ever being explicitly characterised this way. In outlining a "model of coevolutionary management of transformative change" (page 1006), the transition management literature provides a framework for analysing and understanding emergent transformations. But as a label and as a recognisable term, 'transition management' represents an active intervention in its own right. Language is not innocent (Bauman, 1991). It is therefore important to reflect on the politics of transition management, as a now identifiable set of ideas around which actors and institutions explicitly orient themselves. What work does this label do?

One apparent role is to provide hope: faced with evidently complex and persistent problems, governments can turn to transition management for new methods and strategies. By carving out and highlighting specific 'principles' van der Brugge and Rotmans (2007) separate transition management as a distinctive 'brand',[1] setting it apart from other, less reflexive, approaches and positioning it against and in relation to linear, top-down approaches of the silver bullet variety.[2] In their words:

> "Transition management is based on the following underlying management principles (van der Brugge, Rotmans, and Loorbach, 2005).
> 1. The phase of the transition is guiding for the employing management strategies and instruments.
> 2. A mix of top-down steering, network steering and self-steering instruments should be used, depending on the transition dynamics at hand.
> 3. Multi-level governance is required in which the objectives and instruments vary at the different levels but have to be attuned to reinforce each other.
> 4. Stakeholders have to participate and to be aligned
> 5. Long-term goals must be adaptive to emergent innovations and macrodevelopments.
> 6. Timing and type of intervention is crucial. Non-equilibrium dynamics should be used to innovate."

It is not obvious to whom this prescriptive guidance is addressed—presumably appropriate audiences change and transmogrify all the time—but it is clear that any actors or sets of actors interested in following it will be confronted with some heavy-duty politics of definition: tracking the shifting margins of the transition; identifying 'phases'; articulating objectives and instruments; recognising stakeholders; adapting long-term goals; figuring out timing. Because of the reflexive and shape-shifting nature of transition management, the details of what this definitional work actually consists of,

[1] It doesn't matter if this is a case of the emperor's new clothes or not: our point is that labels have power and effect in their own right.

[2] The metaphor of the silver bullet applies to any straightforward solution perceived to have extreme effectiveness. The phrase typically appears with an expectation that some new technology or practice will easily cure a major prevailing problem. Silver bullets can also be used to kill shape-shifting werewolves (Workshop on "Politics and Governance in Sustainable Socio-technical Transitions" 19–21 September 2007, Berlin).

and the range of actor-managers involved are necessarily fluid (changing as coevolutionary processes coevolve). It is precisely because of this aspect that crucial questions of politics and governance have to do not only with selection and variation, but also with boundary making and definition.

In this light the Transition Management™ model, as nurtured and shepherded by Rotmans, Kemp, and colleagues does important 'work' in highlighting the dynamic nature of systemic change, *and* simultaneously obscuring correspondingly fluid and contested matters of boundary making and definitional power. For example, Rotmans and Kemp write about the challenge of making selective decisions regarding which of twenty-eight transition paths to take and conclude that "it is here that the politics of transition management come in" (page 1008). This is surely not the only place!

It is because vital matters of bounding and defining—matters that constitute what we take to be the real politics of transition management—are played down that we remain wary. Is there perhaps a wolf lurking beneath this fluffily consensual sheep's clothing?

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