

WHITE PAPER

TRANSITIONS TO SUSTAINABILITY A TYPOLOGY OF STRATEGIES >

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IMPORTANT CHALLENGES

This is an age of tremendous challenges and opportunities. The problems are easy to see. We are bombarded with media reports on viral scares, armed conflict, lacklustre economic growth, climate change and the excesses of religious fundamentalism. Somewhat less conspicuous are stories about pressures on natural resources, growing social inequality, mass unemployment and the rising prevalence of mental disorders. These problems are all too real and there is no denying that an awful lot of people, all over the planet, are affected by them. Furthermore, if we would more carefully look into these forces and frictions we would discover that they are all in some way interdependent. For instance, there is no telling where the challenge of climate change precisely stops. It affects the health and livelihood opportunities of millions of people in myriads of ways and from that point onwards cascades into an endless chain of interconnected downstream effects. A similar argument can be made for many of the other megatrends. So isn't it somewhat facile to link this pressing context — rife with threats and uncertainties — to opportunities?

... AND OPPORTUNITIES

But let us entertain the following hypothesis: our species finds itself on a bifurcation point, with one sociocultural system degrading and another tentatively emerging. If this is true then the tensions we are currently experiencing are birth pangs. Rather than to dig in and defend the status quo we ought to be finding out how we might channel these forces towards a more equitable, more sustainable future. That is a practical, intellectual and moral challenge. Nevertheless it is a visionary and positive perspective. How might we be able to achieve this sort of transition?

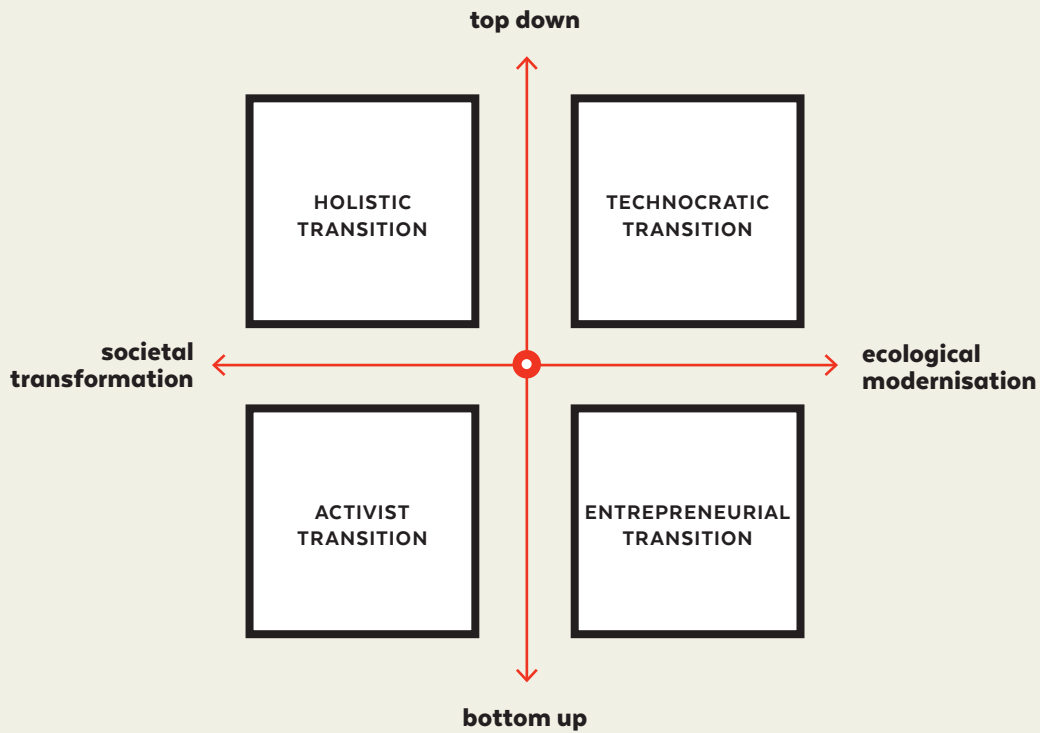
UNPACKING THE NOTION TRANSITION: A TYPOLOGY

Let's try to unpack this notion of 'transition' by constructing a simple typology of transition strategies. The aim of all of these strategies is to shepherd societies — complex socio-technical systems — to another, more sustainable equilibrium.

One important element that could underpin our typology is the dominant framing of sustainability. One worldview sees the rationale for sustainability in a *re-alignment* of economic growth. Growth remains the primary engine of human development and environmental resources serve as a production factor in much the same way as labour and capital. This is essentially a status quo view that sees sustainable development to be achieved within the present structures of society. Let's label it ecological modernization and contrast it with a view that sees a more sustainable society only possible as a result of an encompassing transformation that includes people's moral code, the way they assess and create value and how they govern themselves.

A second element to support our typology relates to the governance of the transition towards sustainability. Basically we can contrast a top down with a bottom up approach. In the former governments find themselves in the driving seat, whilst in the latter its local communities and individuals who are putting their shoulders under the transition.

Combining these two dimensions — 'scope of sustainable development' and 'governance of transition', respectively — **results in a matrix with four (clusters of) transition strategies.** Admittedly it is a crude picture of the transition landscape. Let's investigate each of the quadrants separately.



TECHNOCRATIC TRANSITION

The upper right hand quadrant holds a transition strategy that is governed in a top down fashion and oriented towards ecological modernization. This is the orthodoxy embodied by traditional, government-funded regional and (trans)national innovation systems. Markets and technologies are key instruments in securing competitiveness. Consider the European Union's Horizon 2020 programme as an example of this kind of science-driven, market-led initiative. To a significant extent it is focused on creating more efficient, green infrastructures (energy, transport, agriculture, health care, materials management).

ACTIVIST TRANSITION

In the lower left hand quadrant we find a varied tapestry of grassroots initiatives that seek to contribute to a transition towards a sustainable future. They may be self-financed or supported by governments or civil society actors. As an example we might point to the 'Transition Town' movement that was brought to life in response to the twin challenge of peak oil and climate change. Transition Towns are local communities that seek ways to adopt a less materialistic lifestyle, to strengthen social cohesion and to improve people's problem solving skills. Obviously this quadrant encompasses a wide range of bottom up initiatives, including entrepreneurial activities in the field of social innovation.

The transition strategies encapsulated by these two quadrants have been around for a long time. Both have their strengths and weaknesses. The top-down, science-driven approach has proved its potency in times of war, when there is a political will to mobilize tremendous resources to defeat an enemy. In the absence of these urgent challenges, innovation systems are slow, risk-averse and siloed. Contrary to a bottom-up strategy they do not empower citizens. Grassroots initiatives have the advantage of agility, pragmatism and the connection to a tangible, local need. An important bottleneck faced by citizen-led initiatives is the scaling up towards greater impact.

ENTREPRENEURIAL TRANSITION

Let's move on to the other two quadrants. **The lower right hand cell in our matrix is a placeholder for a transition strategy that is bottom-up and focused on ecological modernization. A contemporary archetype for this approach would be the XPrize ('Revolution through Competition').** Wealthy patrons or large companies put forward a tangible, technology-oriented challenge and offer significant seed money to the team that develops the winning proposal. This is an example of what has been called 'entrepreneurial philanthropy'. It is an approach that is strong in the US but less well developed in Europe.

> Using money prizes as an incentive for breakthrough innovations is by no means novel. The development of a practical method for the determination of a ship's longitude had been encouraged by large, government-funded prizes from the 16th century onward. It triggered one of the most encompassing scientific endeavors ever. Charles Lindbergh in 1927 undertook his flight across the Atlantic in pursuit of a 25.000 dollar prize. Today Google is funding an XPrize worth 30 million dollar to land a privately funded robot on the moon. This could herald a new age of commercial exploitation of our satellite. There are XPrizes in four categories: 'energy and environment', 'exploration', 'life sciences', 'education and global development'.



FLIGHT

ENTREPRENEURIAL TRANSITION: LINDBERGH'S SOLO TRANSATLANTIC FLIGHT SPAWNED A WHOLE NEW INDUSTRY

HOLISTIC TRANSITION

Finally we move to the **upper left hand quadrant**, at the intersection of 'top down' governance and a wider, more holistic conception of a transition to sustainability. I would propose 'Transition Governance' as a typical example of this kind of transition strategy. This is fairly new and important approach and we will discuss it here more thoroughly.

TRANSITION GOVERNANCE

First it is appropriate to make a distinction between *transition science*, *transition governance* and *transition management*. Transition science is a relatively recent field of academic enquiry. It emerges at the intersection of a number of disciplines: systems and complexity science, management science, systems ecology and the political and social sciences. Transition science is therefore decidedly interdisciplinary. Its ambition is to understand the dynamics of complex socio-technical systems (mobility, energy, agrifood, health care) in response to environmental forces.

From these insights transition science seeks to distill an appropriate policy repertoire (which is why in a first approximation we have associated it to a top down approach). This practice has been labelled *transition governance*. Within this area *transition management* is a specific approach developed and published by Dutch researchers (Rotmans, Loorbach, Kemp). The latter term has been opposed because of its suggestion that complex systems can be ‘managed’ at will, a suggestion in flagrant conflict with the insights from transition science. In practice, however, transition governance and transition management will be used interchangeably.

A MULTI-LEVEL PROCESS

Transition governance has been based on a number of principles derived from transition science. **A key argument is that change in complex socio-technical systems is a multi-level process.** It results from interaction between dynamics at the micro, meso and macro-level. The microlevel consists of a stream of innovations developed and introduced by entrepreneurs (for instance, a car sharing scheme). They challenge the established practices at the meso-level, the so-called ‘regime’ (a transport system in which ownership of a car is deeply ingrained). The latter is also under pressure from external forces at the landscape-level (for instance, climate change, rising petrol prices, geopolitical factors, etc.). The idea behind transition governance is to play on these dynamics to shepherd complex systems (regimes) towards sustainability.

A LEARNING PROCESS

Transition governance is not a one-shot strategy. **Societal transitions are seen as a continuous, iterative process of non-linear change.** Long periods of stasis can be followed by episodes of abrupt change.

A NETWORK-DRIVEN PROCESS

Further, transition governance reflects the insight that our post-industrial societies are evolving towards a network morphology. **Policy is not only made by institutions dedicated to that specific purpose. It emerges from an interaction between all kinds of new actors and themes in a context of informality,** fluidity, interdependence, conflict and uncertainty. Hence to an extent transition management breaks down the distinction between top-down and bottom-up that we have adopted as a central component of our typology.

BETWEEN DESIGN AND EMERGENCE

The practice of transition governance boils down to supporting three important activities: developing of a vision of a more sustainable society, seeding and supporting a pool of ‘bounded socio-technical experiments’ informed by the vision, and maintaining an infrastructure that extracts the learning from these experiments and feeds them back into the vision. Actors from different societal sectors – policy, business, civil society – gather in a ‘transition arena’ to make this happen. Hence, the traditional ‘planning and implementation’ strategy is abandoned in favour of an ongoing societal learning process.

Maintaining a dynamic balance between ‘design’ and ‘emergence’ is a key challenge in the management of a transition process. It is precisely the enabling, partially open-ended tension between a coherent, overarching vision of a more sustainable future and the partial, contingent nature of experiments (that are expected to contribute to this vision) that distinguishes transition governance from strictly market-driven introduction of new technologies.

There is no denying that transition governance embodies a compelling synthesis of many insights from systems science. However, experiences with government-driven transition efforts over the last ten years in the Netherlands and Belgium have shown that **it is hard to put in practice.** Policy makers naturally want to absorb elements of a transition governance approach in their usual innovation strategies without completely buying into it. It will require more time and experimentation to make the most of the potential of Transition Governance as a practice of anticipatory democracy, where people actively apply their skills to the analysis and design of socially and ecologically sustainable systems by becoming active participants in shaping their future.

SUMMARY

Let's now briefly recap the line of argument. We have started by acknowledging that we are confronted by pressing challenges. They require short-term intervention but simultaneously can be an impetus to long-term societal transition towards sustainability. In an attempt to understand how societies can be induced to change we constructed a typology of key transition strategies. Obviously this is an important simplification of a very complex terrain. The typology revealed three familiar strategies relying on science-driven innovation systems, well-financed entrepreneurial incentives (prizes) and on a rich tapestry of grassroots initiatives, respectively. We have positioned transition governance as a fourth archetypal strategy. This seems particularly important as it provides a sophisticated framework to guide societal learning processes. It is important to appreciate that these four transition strategies are not rigidly compartmentalised. There is a potential for synergies and conflicts amongst all.

COLOPHON

This white paper was originally published as *Uma tipologia das estratégias de transição* by Santa Casa da Misericórdia de Lisboa (<http://www.scml.pt>) in the 2015 issue of their magazine *Cidade Solidária*.
