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## Embracing the political in technology and transition studies. A response to Philip Vergragt and Bram Bos.

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### Abstract

This article is a short reaction to the comments of Philip Vergragt (this volume) and Bram Bos (this volume) on my article “Sustainability transition and the nature of technology” (Paredis 2011). I start by situating current transition research in the sustainability debate. The relation between the two is simultaneously specific and vague: specific about processes at work during transitions, vague about the content and direction of the change. I then move on to a discussion of how a better conceptualisation of technology could strengthen the transition framework. I want to thank the two reviewers for their critical remarks, that stimulated me to better explain my position.

### Keywords

Sustainability transitions · Transition research · Concepts of technology · Interpretations of sustainable development

## Article

Over the last few years, several analysts have pointed to the fact that “sustainable development” has lost a lot of its appeal as a policy concept for people and organisations that are searching for a new combination of quality of life, living within ecological limits and social justice. While in the 1990’s it still held some promise of fundamental change, “with mainstreaming and bureaucratisation the urgency and political vibrancy was lost, and, with this came a dilution and loss of dynamism in a previously energetic and committed debate” (Scoones et al. 2007, 33). Robinson (2004), Redclift (2005), Sneddon et al. (2006), Leach et al. (2007), Martinez-Alier et al. (2010), to name but a few, make similar remarks. And in a statement as a result of a workshop at UN level in preparation of Rio+20, the authors conclude that “the agenda for Rio+20 must begin from a recognition that none, not one, of the Rio commitments has been fulfilled” (UN-DSD 2010, p. 1).

In spite of the lack of progress towards a more just and sustainable world, there nevertheless seems to be a growing realization with elites as well as ordinary people that some reorientation of the economic and social system is necessary, not in the least of course under pressure of a threatening global economic and financial crisis. An increasingly popular way of framing the challenge we are facing is through use of the word “transitions”. It should not come as a surprise that in no time the word has taken on different meanings, just as happened with the concept of sustainable development. In the interpretation of ‘transition towns’, it has flavours of the transformative perspective on sustainable development, discussed in my article “Sustainability transitions and the nature of technology” (Paredis 2011). In the interpretation of governments such as the British, that plead for a ‘transition to a low-carbon society’ (DBERR/DECC 2009), it is a mixture of the status quo and reform agenda for sustainable development. The concept of ‘just transition’, such as it is currently being used in international labour union circles (ITUC 2010), is a socially adjusted version of UNEP’s green new deal, itself a mixture of the status quo and reform agenda.

What is currently happening in the young research field of sustainability transitions can probably be considered as the theoretically most thought-out elaboration of what such a transition may involve. In a recent book, some of the founding fathers of transition research claim that they have the ambition “to develop a new, inspiring perspective on sustainable development. We felt that both academic and practical discussions failed to deal with the

dynamics and governance of long-term transformative change. The time seemed ripe to bring together our work in one book and by doing so sketch out common elements of a first theory of transition towards sustainable development” (Grin et al. 2010, xvii). In the light of this positioning, it is strange that Bram Bos, in his comment on my article, thinks that the multi-level perspective – the dominant analytical framework in the field – has no special relationship with sustainability, or that the research in *understanding* transitions and the study of the *governance* of transitions should not be conflated into ‘sustainability transition studies’. For one thing, a reading of the mission statement and research agenda of the Sustainability Transition Research Network reveals exactly the opposite<sup>1</sup>. But more importantly, the development the field has gone through over the last decennium is unthinkable without its link to sustainable development. The major grant of the Dutch government for the KSI research network in 2005, which forms the basis of most scientific work in the field, would have been impossible without the prior adoption of the fourth National Environmental Policy Plan (NMP4, VROM 2001) by the Dutch government in 2001. The cornerstone of NMP4 is the concept of system innovations and transitions: fundamental changes in consumption and production patterns to address persistent problems such as climate change, biodiversity loss and overexploitation of resources. I agree with Bos when he thinks that the MLP can be used to study all kinds of transitions, historical and present-day, without judging their sustainability aspects, but stating that transition research has no special relationship with sustainability is turning the world upside down.

The exact relationship between transition research and sustainability is however hard to define. It is simultaneously specific and vague. It is specific in the sense that it tries to give a detailed account of the processes at play during transitions: how niches evolve, what explains the dynamic stability of the regime, how the landscape puts pressure on regimes etc. For this, it falls back on a combination of up-to-date conceptualisations in different scientific fields. Its conceptualisation of economic processes relies heavily on evolutionary economics, with notions such as bounded rationality and co-evolution. Its conceptualisation of political processes draws on theories of multi-level, multi-actor and reflexive governance. Its conceptualisation of technology is rooted in SCOT and ANT (as I have tried to show in my article). The combination of these kind of approaches has led to an attractive framework for

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<sup>1</sup> See <http://www.transitionsnetwork.org/manifest>

studying and explaining the processes at work in transitions, and trying to derive strategies for influencing transitions in the direction of more sustainable systems.

When I say that the relationship between transition research and sustainability is vague at the same time, I refer to the fact that the transition literature always mentions the need for “radical” or “deep” or “fundamental” changes but almost never makes explicit what this radicalism implies. Where should we situate sustainability transitions in terms of for example Hopwood’s or Sachs’ classification of sustainable development perspectives that I described in my article: in the status quo/contest perspective, the reform/astronaut’s perspective, or the transformative/home perspective? In a brief – and one of the few – discussions on the relation transitions-sustainability, Grin et al. (2010) pose that “the transition approach goes beyond the idea of win-win, new business opportunities, competitive advantage, people, planet and profit (central to many expressions of ecological modernization and also sustainable development approaches) and acknowledges that we have to face deeper changes and hard choices” (p. 322-323). However, it is impossible to find an indication of what these deep changes and hard choices are: a choice for a steady-state economy? A role for sufficiency strategies as essential complement to eco-efficiency? A redistribution strategy on national and international level? A curtailment of the market, with reliance on other modes of provision (e.g. state, communal, domestic) and relocalization?<sup>2</sup> And – one of the themes of my article – does this have consequences for the technologies that are currently in use and for new technologies that are under development?

It is refreshing to read in Vergragt’s comments that he thinks sustainability is about challenging the growth paradigm, changing values, lifestyles and consumption patterns, and creating policies and social movements to accomplish that change. However, he adds, sustainability is not about choosing this or that technology, and transition research should not be expected to give guidance in that respect. If you open this discussion, you fall in an instrumentalist trap. Bos makes essentially the same point, adding that there is no nature of technologies, but that transition research is about nurturing technologies. I find this surprising. If we agree that technologies have an influence on the shape a society takes and that they co-shape our lives, that they are thus inherently political (although of course they are but one influence among many), then surely we should try to analyse what different technologies

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<sup>2</sup> For a recent discussion of different sustainability strategies such as eco-efficiency, sufficiency and de-commoditization, see Boulanger (2010) and Crivits et al. (2010).

imply for the evolution to a more sustainable society? Are we to nurture any technology or should we somehow discriminate between them?

I agree that there is enough evidence that simply picking winning technologies is not the right way forward. My wording of “giving guidance” can indeed be confusing and give an instrumentalist impression. What I propose are two different but complementary ways of how transition researchers can contribute more in the discussion about technologies and sustainability than they do now, although I realise that my proposals are far from mature. The first suggestion is to ground the conceptualisation of technology not only in SCOT and ANT, but to look for conceptualisations that allow being more explicit about the interests inscribed in the material infrastructure that already exists and that may be inscribed in the future. Whether we like it or not, thinking about sustainability transitions implies a normative orientation, and while SCOT and ANT are strong on description and analysis, the question is how far they are helpful when discussing normative orientations. Trying to integrate the work of philosophers of technology such as Andrew Feenberg and Langdon Winner would create much more sensitivity for the political dimension of technologies, the social forces they support, the ways of life they privilege, the “technical code” that is inscribed (even if such a code is not deterministic). A lot of current transition research studies all kinds of technological niches and analyses the processes at work in niches, relying on approaches such as Strategic Niche Management (Raven 2005, Schot and Geels 2008) or Technological Innovation Systems (Hekkert et al. 2007, Bergek et al. 2008), but does not seem able (or willing) to give an indication of the political dimension and implications of these technologies. Of course, it is not up to scientists to make final decisions about technologies, but if transition researchers could lay bare possible political, society-shaping implications of technologies, they would contribute to the social debate about technology, beyond the process-related insights that are currently offered (and that are also necessary and useful of course).

A second suggestion is to embed current transition research in a more explicit discussion of the possible interpretations of sustainable development and the “band width” within which sustainability transitions can occur. This would also, in a next step, help in opening up the discussion on the role different technologies and future technology development can play in a sustainability transition. It may further create room for a discussion about the balance between high-tech, low-tech and non-tech solutions in the quest for sustainability. As for my own position, I have no problem in admitting that I think the formulation in IPCC’s Third

Assessment Report (Banuri et al. 2001) of how climate change mitigation can result from two decoupling processes, is an attractive starting point for such an embedment (see Paredis 2010 for a discussion). Given the aspiration of furthering global justice within ecological limits, I think there is a lot to say for thinking about how technologies can not only fit within processes that decouple growth from resource flows, but also in processes that decouple wellbeing from production. I guess Vergragt's position also takes some inspiration from such an approach when he boldly states that "clearly biking is more sustainable than driving a car". Also Bos' research on redesigning animal husbandry and moving beyond mere productivity concerns, can probably be framed as part of such an endeavour.

As mentioned in my article, I think the current position of IPCC about different mitigation strategies, as exemplified in AR4 (Halnaes et al. 2007), is an impoverishment of the debate on the direction we should be taking when compared to some of the earlier discourse in TAR. Reason et al. (2010, p. 99-100) rightly remark that "the 'common sense' of the current sociotechnical regime does not support any innovation towards low carbon that challenges the growth assumptions of the business paradigm. Exploring alternatives often requires moving against strongly-held, often unspoken, conventions of what is normal, acceptable and reasonable action to take." In my opinion, transitions research as well as the philosophy and sociology of technology should dare to venture in this field.

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