

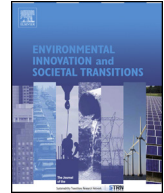


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Contents lists available at ScienceDirect

Environmental Innovation and Societal Transitions

journal homepage: www.elsevier.com/locate/eist



Addressing social representations in socio-technical transitions with the case of shale gas

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ARTICLE INFO

Article history:

Received 16 September 2014

Received in revised form 2 January 2015

Accepted 30 January 2015

Available online xxx

Keywords:

Fracking

Public opinion

Shale gas

Social representations

Socio-technical transitions

ABSTRACT

While sociologists of science and technology have long understood technological diffusion and adoption as processes of social embedding, the psycho-social processes involved have received relatively little attention in the socio-technical transitions literature. Here we consider the value of Moscovici's social representations theory in terms of its potential contribution to a theory of socio-technical change, the multi-level perspective (MLP). Using fracking-derived shale gas as a technology case study and newspaper representations of the technology in Poland, Germany and the UK as data, we address and illustrate connections between the processes of anchoring and objectification that are central to social representations theory and the socio-technical dynamics observed. In so

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<http://dx.doi.org/10.1016/j.eist.2015.01.004>

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Please cite this article in press as: Upham, P., et al., Addressing social representations in socio-technical transitions with the case of shale gas. Environ. Innovation Soc. Transitions (2015), <http://dx.doi.org/10.1016/j.eist.2015.01.004>

doing, we set out an approach for further work on agency in the MLP and socio-technical change processes generally, informed by a social psychological approach that aligns with structuralist concepts.

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1. Introduction

It is somewhat surprising that theorisation of socio-technical system change has to date said relatively little about the role of public opinion in system change from a psychological perspective. Nelson and Winter's (1982) technological regime concept originally referred to shared cognitive routines among engineers and technologists, which sociologists of technology broadened to include a wider range of actors (Bijker, 1995, in Geels and Schot, 2007). Yet theories of perception, behavioural, attitudinal or practice change relating to a broader range of system actors appear largely absent in the socio-technical transitions literature, including that on the multi-level perspective (MLP) (Whitmarsh, 2012). The public do sometimes make an appearance as consumers and by proxy as civil society (e.g. Geels, 2013), but detail on (and particularly integration of) psychological processes is largely missing. The same applies to the role of broadcast and other news media, which arguably play a role in both shaping and reflecting public discourse, as both cause and effect (Habermas, 1984). It is not that socio-technical transitions theorists are unaware of the role of the public as citizens or consumers, but they do seem to have paid this role relatively little attention.

Seeking to remedy this and taking the MLP as an exemplar model of socio-technical change (Geels and Schot, 2007), here we develop a cognitive perspective on the interaction between niche, regime and landscape levels, drawing specifically on social representations theory (Moscovici, 1988). In particular, we comment on how the processes of anchoring and objectification, central to social representations theory, interact with the processes posited in the MLP. Accordingly, we view actors as agents who both produce and are affected by social representations. Through linkage with the MLP, we locate and illustrate social representations as produced in actors' communications and interactions, which become part of the wider background reality that the MLP describes as the landscape of a given socio-technical change, but which also operate at regime and niche levels. In short, we suggest that social representations theory allows us to see the three levels of MLP as interacting with each other through the cognitive practices of the actors involved. Our focus is thus more ideational than material, but it is not on discourse per se, but rather on the use of communication in conjunction with the specific social psychological processes posited in social representations theory.

Empirically, we examine these interactions through a comparative case study of media representations of shale gas in the UK, Germany and Poland, for which there is little similar literature to date, with the exception of e.g. Jaspal and Nerlich (2013). For this purpose, representations of shale gas are particularly apt: being controversial, shale gas exploitation has been diversely thematised in the national media of European nations by a variety of actors from several perspectives, enabling a spread of representations to be observed. In terms of research design, the paper combines empirical illustration with theory development. Our aim is to propose a theoretical perspective for further research rather than to make widely applicable, empirically conclusive statements. The perspective that we develop is intended to be of relevance for both emerging and established socio-technical systems and also for different cultural contexts – hence we use empirics from several countries, illustrative of different political backgrounds, albeit a single class of communications source (newspapers). We begin with an overview of the shale gas sector in the case study countries of the UK, Poland and Germany, selected for their contrasting experiences of shale gas exploitation in Europe. We then provide overviews of the two theories that we wish to bring together; a statement of methods and data follows; finally we discuss connections between the theories and directions for further work.

In Europe, particularly Eastern Europe, exploratory drilling for shale gas has been undertaken by oil and gas majors such as Total and Chevron, as well as smaller operators (Williams and Amiel,

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