



Boundary spaces: Science, politics and the epistemic geographies of climate change in Copenhagen, 2009



Martin Mahony

Science, Society and Sustainability (3S) Group, School of Environmental Sciences, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ, United Kingdom

ARTICLE INFO

Article history:

Received 5 July 2012

Received in revised form 9 May 2013

Available online 8 June 2013

Keywords:

Geography of science
Science–policy interface
Boundary spaces
Climate politics

ABSTRACT

Modern democracies have conventionally handled the complex delegation of epistemic and normative authority through an understanding of science and politics as occupying distinct cultural domains. This work of delegation has been observed in the context of ‘boundary organisations’ which straddle the divide between science and politics and which regulate the flow of information and authority between the two domains. These observations have contributed to understandings of how science and politics are co-produced – how they evolve together in ongoing, iterative processes which contribute to the ephemeral attainment of social order. In the context of issues like climate change, which pose distinct challenges to scientific certitude, democratic politics and institutional stability, boundary questions become increasingly significant. This paper seeks to advance the notion of ‘boundary spaces’ in order to capture the diversity of settings in which the boundaries between science and politics are negotiated. Drawing together literatures from geography and science and technology studies (STS), it is argued that attention to the epistemic geographies of boundary spaces can reveal the heterogeneous processes of ordering at what is commonly referred to as the ‘science–policy interface’. The argument is illustrated empirically through a study of two efforts which were made to bring-together scientific knowledge in order to inform the ultimately ill-fated international climate change negotiations in Copenhagen in 2009. Questions of epistemic credibility, normative authority and uncertainty about the veracity of the 2 °C warming target became particularly acute amid an atmosphere of political urgency. It is suggested that by attending to such boundary spaces as sites of co-production, we may be able to attain a fuller understanding of the late modern geographies of science and of the entangling of the epistemic and the normative at the shifting boundaries of science and politics.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

Despite widespread societal agreement on the need for political action to address climate change, so far the achievements of global climate governance have been limited to the rather modest ambition of the Kyoto Protocol. Signed in 1997 following negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), the Protocol committed developed countries (with significant exceptions such as the US) to around a 5% cut in emissions of climate-warming greenhouse gases during the period 2008–2012, as compared to a 1990 baseline (Grubb et al., 1999). The 15th Conference of the Parties to the UNFCCC (COP15) meeting in December 2009 was a crucial moment in political efforts to negotiate a successor treaty to the Kyoto Protocol which would legally commit countries to further emissions reductions post-2012. During the months leading up to the December conference, the city of Copenhagen therefore became a microcosm of the global climate change debate, with a diverse array of actors fuelling a

sense of urgency, expectation and hope; Copenhagen became ‘Hopenhagen’.¹ Part of this anticipation saw the city acting as a key site of science–policy interaction, as a number of scientific actors sought to bring together new and emerging knowledge about the state of the climate, the potential impacts of climate change and possible political and societal responses, with the aim of informing and shaping the political debate.

The issue of climate change poses unique challenges to the norms and practices of science and democratic politics. Complex mechanisms of physical causation, intractable uncertainties about future changes, the seeming inability of political institutions to deal with global risks; these factors, among others, have seen conventions of expertise, representation and political authority called into question as societies have collectively or otherwise sought a ‘solution’ to the problem of anthropogenic climate change (Beck, 2009; Hulme, 2009a; Jasanoff, 2010). The physical sciences have exercised a great deal of ‘definitional power’ (Beck, 2009, p. 32) in the climate debate, with organisations such as the Intergovernmental Panel on

E-mail address: m.mahony@uea.ac.uk

¹ <http://www.hopenhagen.org>.

Climate Change (IPCC) playing a central role in shaping discourse on causation, hazardousness, responsibility and potential solutions. The scientific construction of climate change as a global environmental problem rooted in the universal physical properties of the greenhouse gases has shaped the political space within which actors have responded in technocratic terms of global environmental managerialism (Demeritt, 2001; Miller, 2004; Oels, 2005). Yet political contestations over climate change have often focused on scientific arguments, as various actors have sought to shed doubt on the scientifically-delineated need for strident political action (see Oreskes and Conway, 2010), while others have called for the insulation of science from the polluting forces of politics (cf. Mann, 2012, p. 147; Montford, 2010).

Such arguments reveal tensions inherent to the modernist settlement of science and politics as being wholly separate domains, with the former able to provide the latter with value-free knowledge on which political decisions can be based (Ezrahi, 1990; Latour, 1993). Work in science and technology studies (STS) and cognate disciplines has problematised the notion that science operates as an autonomous ‘republic’ (Polanyi, 1962), and has instead emphasised the *co-production* of knowledge and social order. The notion of co-production was introduced by Jasanoff (2004a, p. 2) as “shorthand for the proposition that the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it”. Attempts to draw sharp distinctions between the worlds of science and politics therefore tend to mask the complex interpenetration of epistemic claims and normative commitments (e.g. Demeritt, 2001). However, such ‘boundary work’ (Gieryn, 1983) can itself be seen as a mode of social ordering, for example to delegate certain forms of authority to science or politics (Ezrahi, 1990) in contexts – such as climate change – where complexity and indeterminacy preclude problems being comprehended or ‘solved’ by the activities of any one set of authorised actors (Turnpenny et al., 2009).

This paper seeks to explore the boundary dynamics of climate politics. The notion of ‘boundary spaces’ is developed to facilitate consideration of the epistemic geographies (the objects, actors, spaces and discourses) of science–politics interactions beyond the conventionally-delineated organisational spaces in which such interactions are subject to formal management. By drawing together literature from STS, geography of science and the geography of organisations, an account is given of the contested spaces of the science–politics relationship in the run-up to the ill-fated international climate change negotiations in Copenhagen. In the following section, the notion of boundary spaces is developed in relation to literatures on the spaces and boundaries of science, with particular reference to examples drawn from the climate change debate.

2. The geography of science–policy interactions

The lively field of ‘geography of science’ (Livingstone, 2003; Powell, 2007; Meusburger et al., 2010) has drawn attention to the significance of locality in scientific knowledge production and to the varied reception supposedly universal knowledge receives in diverse places. For Livingstone (2003, p. 123), “in the consumption of science, as in its production, a distinctive regionalism manifests itself”. Yet such arguments have a tendency to reify a distinction between spaces of knowledge production and consumption and may overlook the forces of co-production which problematise such distinctions. Along with a “spatially sensitive social constructivism” (Withers, 2010, p. 67), geographies of science also employ – often implicitly – a phenomenological spatiality which conceives places as a “distinctive coming together in space” (Agnew, 2011, p. 317) of diverse socio-cultural trajectories (Massey, 2005). *Place* is thus a unique assembly of phenomena

and actors where actions unfold through the mobilising of “distant actants that are both present and absent” (Callon and Law, 2004, p. 6); actants that are connected in material networks of sociotechnical relations which enfold together otherwise distant spaces. As will be argued below, this spatial imaginary may help conceptualise ‘boundary spaces’, where the spaces of knowledge production and consumption intermingle in processes of social ordering.

2.1. Social forms at the science–policy interface

For the last 25 years the interaction between science and politics on the issue of climate change has been dominated by the IPCC. Charged with offering scientific knowledge to the nation-state signatories of the UNFCCC, the IPCC has exercised considerable epistemic and definitional power (Hulme and Mahony, 2010; Tol, 2011; Bjurström and Polk, 2011). Comprehensive assessment reports are delivered every 6 years and for many observers the periodic, authoritative consensus statements of the Panel have been instrumental in driving forward the global political process (Edwards and Schneider, 1997; Tonn, 2007) and public debate (Boykoff, 2011). For others, the knowledge mobilised by the IPCC is inflected with localised problem-framings which raise questions about how trust in distant or international scientific practices is to be achieved in diverse political contexts (Biermann, 2001; Lahsen, 2004; Hulme, 2010; Jasanoff, 2011). The assumption that the IPCC represents disinterested, neutral scientific knowledge (Moss, 1995) which can be used to legitimate political decisions has been critiqued by analysts wary of ‘linear model’ understandings of science–policy interactions (e.g. Sarewitz, 2004; Carolan, 2008). The linear model holds that authoritative scientific knowledge must always precede effective decision-making, and that the latter is wholly dependent on the former (Beck, 2011; Grundmann and Stehr, 2012). The linear model also reinforces an understanding of science and politics as occupying wholly distinct cultural and physical spaces.

Work in STS has emphasised the diversity of organisations, discourses, and networks which nonetheless straddle the boundaries between science and politics, thus challenging the implicit spatiality of the linear model. In disputing earlier notions of science as a neutral, value-free exercise which can generate wholly impartial yet policy-relevant knowledge, and thus ‘speak truth to power’ (c.f. Wildavsky, 1979; Jasanoff and Wynne, 1998), studies of the operation of advisory panels (Jasanoff, 1990), regulatory science (Jasanoff, 1990; Irwin et al., 1997), ethno-epistemic assemblages (Irwin and Michael, 2003), and networks at the science–policy interface (Chilvers and Evans, 2009) have contributed to understandings of these social processes and forms as instances of co-production. This proposition challenges the notion that sharp distinctions can be drawn between science and politics by drawing attention “to the social dimensions of cognitive commitments and understandings, while at the same time underscoring the epistemic and material correlates of social formations” (Jasanoff, 2004a, p. 3).

2.2. Boundary spaces

The work of facilitating and managing flows of knowledge, resources, people and material things across the boundary between science and politics has often been bestowed upon what have become known to STS scholars as ‘boundary organisations’ (e.g. Guston, 2001; Miller, 2001; Boezeman et al., 2013). The IPCC fits the description of such organisations, which “exist at the frontier of the two relatively different social worlds of politics and science, but... have distinct lines of accountability to each” (Guston, 2001, p. 401). Drawing on principal-agent theory, the concept of the boundary organisation highlights the work of authority delegation according to normative principles which may differ across the

Download English Version:

<https://daneshyari.com/en/article/5074205>

Download Persian Version:

<https://daneshyari.com/article/5074205>

[Daneshyari.com](https://daneshyari.com)