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Abstract

This paper seeks to develop an alternative account of the geographies of environmental governance to those current conceptions which tend to take space and scale for granted as pre-given, contained, natural, entities. Through an engagement with the debates on the politics of scale, the argument is made that a new spatial grammar of environmental governance must be sensitive to both the politics of scale and the politics of networks. Rather than considering “scalar” and “non-scalar” interpretations of spatiality as necessarily opposite, the paper argues that through a more careful deployment of concepts of hierarchy and territory common ground between scalar and network geographies can be forged, and can inform our understanding of environmental governance. In making this argument, the paper provides an overview of contemporary configurations of global environmental governance, and seeks to illustrate by reference to one transnational municipal network, the Cities for Climate Protection program, how governing the environment involves both political processes of scaling and rescaling the objects and agents of governance, as well as attempts to create new, networked, arenas of governance. The paper concludes that recognition of new spatial grammars is necessary for understanding emerging hybrid forms of environmental governance, and their political and ecological implications.

Keywords

environmental governance; politics of scale; networks; spatial grammar; global environmental politics; climate change

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INTRODUCTION

Within analyses of environmental governance, concepts of space and scale are usually taken for granted as synonymous with the nested territorial containers within which social and political life takes place. As a consequence, ‘levels of decisionmaking have been conventionally examined as if they were independent’ (Adger et al. 2003: 1101; see also Cowell 2003; Gibbs and Jonas 2001), with the concomitant assumption that decisions are ‘cascaded’ from international, to national, and then local scales (Bulkeley and Betsill 2003; Owens 2004). This paper argues that such understandings of the spatial and scalar configurations of environmental governance obscure the manifold ways in which such issues are created, constructed, regulated and contested between, across and among scales, and through hybrid governing arrangements which operate in network terms. In order to develop an alternative account of the geographies of environmental governance, this paper examines one example through which such governance takes place - transnational municipal networks (TMN)¹. The growing prevalence of TMN concerned with issues of economic development within Europe has been noted by several authors (Bennington and Harvey 1999; Heeg et al. 2002; Jeffery 2000; Leitner and Shepperd 2002; Leitner et al. 2002; Schultze 2003). Comparatively less attention has been directed towards TMN whose focus is on issues of environmental sustainability (Betsill and Bulkeley 2004; Bulkeley et al. 2003; Kern 2001; Ward and Williams 1997). The development of these networks has been fostered both by the call in Chapter 28 of Agenda 21 ‘to establish processes to increase the exchange of information, experience and mutual technical assistance among local authorities’ (UN 1992) as well as through the European Commission which established the European Sustainable Cities and Towns Campaign and has provided funding to

several TMN operating in the area of environmental sustainability. By the mid-1990s, twenty-eight such networks were operating in Europe alone (Ward and Williams 1997), though given that the Directorate-General for Regional Policy and Cohesion provides funding for ‘several thousand transnational network projects over a limited time period’ (Leitner et al. 2002: 293) this is probably an under-estimate of network projects relating to urban sustainability. Internationally, the International Council for Local Environmental Initiatives (ICLEI) has established a Local Agenda 21 campaign, the Cities for Climate Protection programme, and most recently the Water Campaign, while UN-Habitat has fostered the development of the Sustainable Cities Programme.

This paper examines the ways in which TMN challenge traditional accounts of environmental governance, and explores the ‘spatial grammar’ which such networks configure. In doing so, the paper draws upon recent (geographic) debates about the politics of scale and the rescaling of the state, as well as the specific example of the Cities for Climate Protection (CCP) programme (Bulkeley and Betsill 2003). In order to examine the implicit understandings of space and scale which are currently reproduced in analyses of environmental governance, the first section focuses on accounts of global environmental governance. The paper then moves to examine recent debates on the politics of scale in order to establish what insights can be derived for an analysis of environmental governance. It provides an account which seeks to move beyond the polarised debate between ‘scalar’ and ‘non-scalar’ perspectives, through revising the ways in which concepts of hierarchy and territory are deployed to make sense of a politics of scale and a politics of networks. The third section develops this argument further by examining how the CCP programme engages in both a politics of scale and in creating a new ‘sphere of authority’ within which governance is organised in network

terms. The argument is made that a new spatial grammar of environmental governance needs to make space both for processes of scaling the state (and other institutions) and for network forms of governing. In conclusion, the implications of this approach for environmental governance are considered.

CONCEPTUALIZING GLOBAL ENVIRONMENTAL GOVERNANCE: BEYOND THE TERRITORIAL TRAP?

While there are a multitude of perspectives and interpretations of the term governance, it implies a focus on “systems of governing”, means for ‘authoritatively allocating resources and exercising control and co-ordination’ (Rhodes 1996: 653), in which state actors are not necessarily the only or most significant participants. Rather than seeing ‘government’ and ‘governance’ as necessarily opposite, this interpretation suggests a continuum of systems of governing, in which state and non-state actors play a variety of roles. Mirroring shifts within the political and social sciences more broadly, governance ‘has become one of the key themes in global environmental politics’ (Paterson et al. 2003: 1). Nevertheless, there is considerable diversity in the ways in which global environmental governance has been understood, with divergent interpretations of the key terms global - either as a scale of activity or as the result of the process of globalisation – environmental - strictly or broadly defined - and governance - seen in opposition to government, as new forms of governmentality or as the positive resolution of environmental problems (Paterson et al. 2003; see also Adger et al. 2003). The various conjunctions of these interpretations means that for some, global environmental governance entails the creation of global institutions through which to manage global

commons, while for others it relates to the emergence of transnational networks and new forms of civil society. Though there are further positions which lie between and beyond these characterisations, as the pre-dominant approaches each provides insight into the ways in which particular concepts of space and scale are deployed in the analysis of global environmental governance.

Going Global

For the majority of scholars working within the tradition of international relations, the governance of global environmental issues takes place through international regimes. In this view, the management of both global environmental problems, those like climate change whose origins and impacts stretch over all state boundaries, and ‘leaky’ local issues such as biodiversity, which while grounded in particular places spill over their boundaries (Castree 2003: 424), requires the formation of international institutions (Paterson 2001). While authority and legitimacy reside with nation-states, regimes, ‘social institutions that consist of agreed upon principles, norms, rules, decision-making procedures, and programs that govern the interactions of actors in specific issue areas.’ (Young, O. 1997: 5-6), are formed in a specific issue area to facilitate cooperation by providing information and reducing transaction costs (Hasenclever et al. 1997). The function of such regimes is envisaged as plugging the gaps between state spaces, or expanding the collective territoriality of the state into the atmosphere and oceans. Regimes both strengthen the territoriality of nation-states, by reinforcing the importance of the inter-state system, while at the same time weakening notions of territorial sovereignty by allowing the ‘global community’ (sometimes hegemonic states or

collectives) to regulate processes occurring within what is frequently considered to be sovereign state space.

Framed as problems of collective action between sovereign states, within traditional accounts of global environmental politics the notion of the state as the primary arena of political power remains unchallenged and there have been relatively few analyses of the changing nature of the state or sovereignty (for exceptions see Karkkaninen 2004; Litfin 1998). While regimes may assume a degree of control over states, they are seen to be created by and for states, either on the basis of the initiative of a hegemonic state or through interest-based inter-state bargaining. In this way, regime theory, like other aspects of international relations, falls into what Agnew (1999) has called the 'territorial trap', in essence the naturalization of 'state space' as the taken-for granted demarcation of political power (Brenner et al. 2003: 2). This involves implicit assumptions that: the boundaries of states make them both sovereign and exclusive; that a neat division can be cleaved between domestic and international politics; and that modern social and economic life is 'contained' within the borders of the state (Agnew 1999; see also Brenner et al. 2003). In this view, global environmental issues are governed by and through states, albeit with some cession of state powers to new inter-state institutions and the influence of different groups of actors, including NGOs and scientists, acknowledged. As Paterson (2001: 2) argues, the 'fundamental (yet largely unacknowledged, and certainly unexamined) commitments in this understanding of global environmental politics are of an inter-state understanding of global politics, a liberal understanding of political economy, of the neutrality of science'.

This reading of the relations between the state, environment and globalisation have been partially challenged by “knowledge-based” or “constructivist” approaches, which view international regimes as a means through which cognitive and normative aspects of environmental issues come to be constructed and learnt, in turn shaping the ways in which states perceive their interests (Hasenenclever et al. 1997; Litfin 1994; Newell 2000; Paterson 1996; Payne 2001). These approaches have begun to open up the boundaries of the state, and to consider the influence of domestic politics on international relations and vice versa. At the same time, the roles of non-state actors in the process of regime formation and policy implementation are increasingly acknowledged. However, in the main, the significance of non-state actors lies in the extent to which they shape, facilitate or change the behaviour of nation-states within international regimes (Auer 2000; Bulkeley and Betsill 2003; Litfin 1993). While such perspectives call into question liberal notions of political economy and the neutrality of science, and acknowledge the redistribution of state functions towards new institutions and to non-state actors, in the main assumptions about the nature of the state remain under-examined.

Likewise, within both traditional and constructivist accounts of regimes, the scales at which environmental governance takes place are treated as hierarchical and discrete, ‘as ...self-enclosed political territories within a nested hierarchy of geographical arenas contained within each other like so many Russian dolls’ (Brenner et al. 2003: 1). For the most part, the scope of global environmental governance is confined to an imagined global scale, either in terms of the nature of the problems to be governed or in terms of the institutional solutions which are considered appropriate (Ford 2003; Patterson et al. 2003). In this reading, the governance of global environmental issues requires global

solutions which are then ‘cascaded’ down through national, and implicitly, sub-national arenas of governance (Bulkeley and Betsill 2003: 15-16). This naturalisation of the ‘global’ as the arena in which designated global environmental problems take place effectively serves to disembodify the causes and consequences of such problems, and their construction as such, from practices and politics taking place at a multitude of sites and scales of governance. Alternative accounts have begun to move beyond the global as the only significant arena in which global environmental governance takes place. For example, Vogler (2003: 30), drawing on the concept of multilevel governance envisages ‘a nested hierarchy of governance levels reaching down from the inter-state to the local level’. However, the scales of governance remain bounded, and there is little consideration of the possibilities that the governance of global environmental issues might emanate from the ‘bottom up’.

Transnational Networks

Alongside the fixed territorial spaces and hierarchical scales of global environmental governance, alternative approaches which focus on horizontal governance structures are emerging. Characterized in network terms, there is increasing interest in the role of actors and institutions which operate simultaneously across multiple scales (Jakobsen 2000; Lipschutz and Conca 1993; Newell 2000; O’Brien et al. 2000; Smith et al. 1997; Wapner 1996). In particular, three transnational network concepts have been developed in relation to global environmental governance (Betsill and Bulkeley 2004): epistemic communities (Haas 1990); transnational advocacy coalitions (Keck and Sikkink 1998); and global civil society (Lipschutz 1996).

An epistemic community can be defined as a network of experts who share a common understanding of the scientific and political nature of a particular problem (Haas 1990; Paterson 1996). A transnational advocacy network (TAN), on the other hand, includes a broader range of actors, working internationally on an issue and “bound together by shared values, a common discourse, and dense exchanges of information and services” (Keck and Sikkink 1998: 2). Both types of network, which may consist of state and non-state actors, are seen to operate simultaneously within domestic and international political arenas. Likewise, both theories stress that political authority accrues to networks through their ability to garner and deploy information, knowledge and values (Haas 1990; Lipschutz 1996; Keck and Sikkink 1998). Here, power is seen to ensue from multiple sources of authority, including expertise and moral positions. However, in the epistemic communities approach networks are envisaged as conduits for the exchange of information, while the TAN approach recognizes that knowledge is contested as actors seek to frame ‘the terms and nature of the debate’ (Keck and Sikkink 1998: 2). Nevertheless, in each case the power of transnational networks lies in their ability to influence nation-states, which remain the location of governance (Auer 2000: 159; Litfin 1993: 96; Rosenau 2000: 170). While these approaches suggest that global environmental issues have led to the creation of networks of transnational political relations which go beyond those found in inter-state connections, the authority of such networks remains tied to traditional political arenas, primarily the nation-state (Betsill and Bulkeley 2004).

In a third approach, sometimes labelled ‘global civil society’, scholars have begun to examine the role of transnational networks in a more radical way² (Ford 2003; Lipschutz 1996; Wapner 1998). These approaches move away from state-centred

analyses to consider the multiplicity of actors and institutions that influence the ways in which global environmental issues are addressed across different scales. From this perspective, global environmental governance is not only the province of interstate negotiations and regimes. Rather, governance takes place through ‘spheres of authority’ (Rosenau 1997) which may be territorially based or non-territorial networks that compete and co-operate through the exercise of formal and informal authority. In other words:

Governance occurs on a global scale through both the co-ordination of states and the activities of a vast array of rule systems that exercise authority in the pursuit of goals that function outside normal national jurisdictions. (Rosenau 2000: 172)

In this view, not only are networks considered influential in so far as they shape the range and extent of state action, but also as an important site for the governance of global environmental issues in their own right. In part, this shift of focus involves a re-conceptualisation of the causes of global environmental problems, away from the emphasis on a tragedy of the global commons or global trends in population, consumption or some other variable, and towards the ‘practices which produce global environmental change, which are necessarily “local”’ (Paterson 2001: 9). It is also reflective of a belief that ‘while governments are the main authoritative political institutions, politics as an activity or politically relevant behaviour is not exhausted by them’ (Wapner 1996: 7). Here, political authority is not confined to territorially delimited entities, such as global regimes and nation-states, but accrues in non-state spaces. However, and despite Rosenau’s acknowledgement that governance involves

the intermeshing of forms of state and non-state authority, most discussions of transnational networks tend to assume that they primarily consist of, and behave as, non-state entities. Moreover, while some of the analysis of transnational networks signals an escape route from the ‘territorial trap’, the core assumption that the state is a singular, sovereign and bounded unit has remained largely unchallenged. Lipschutz (1996: 57) takes a more nuanced view of the state, acknowledging that states are “multi-level, pervasive and in constant conflict with themselves”, and that complex relations exist between different levels of government and (non) state actors which implement government policy. However, his analysis of the emergence of networks within global civil society is primarily concerned with the links being forged between non-state actors across different places and at different scales, with the role of state entities significant in so far as they facilitate or impede this process (Lipschutz 1996: 98).

Space, Scale and Global Environmental Governance

Within these different approaches, three distinct configurations of the spaces and scales of global environmental governance can be discerned. The first, associated with mainstream regime theory and some constructivist accounts, is based on the nation-state as the primary arena of political authority and on a hierarchical model of the scales of environmental governance. The second, common to some constructivist approaches to regimes and transnational network theories, also takes state-space for granted, but disrupts hierarchical notions of scale through the presence of horizontal networks. The third, associated with global civil society, similarly disrupts notions of the hierarchies of environmental governance and begins to locate political authority in networks outside state-space, but in turning its attention to non-state actors ironically leaves the nature of

state space unexamined. Such configurations leave no analytical space for environmental governance arrangements which are hybrid, involving a mix of state and non-state actors, or multi-scalar, including actors drawn from different levels of governance simultaneously, and provide little insight into how different forms of hierarchical and network governance interact and intersect to produce particular governance forms, mechanisms and outcomes. While Rosenau's concept of 'spheres of authority' provides a potential starting point for conceptualising such governance arrangements, it is 'framed in very general terms, offering few specifics as to the patterns and principles that define these new emergent structures.' (Karkkainen 2004: 74).

In picking up where 'Rosenau and others leave off', Karkkainen (2004: 74) proposes that a 'post-sovereign' account of environmental governance is needed in order to analyse emergent hybrid, problem-solving governance arrangements. Such collaborative governance arrangements can include state actors, sub-national governments, multilateral institutions, NGOs, businesses interests and scientists, and 'represent a nascent polycentric substitute for more familiar forms of sovereign authority, operating within a limited subject-matter sphere and at a spatial scale whose boundaries are defined by the nature and scale of the problem to be addressed' (Karkkainen 2004: 74). These governance arrangements, he argues, are non-exclusive, in that there is no exclusive sovereign authority, non-hierarchical, in the sense that authority is not predicated on command and control, and post-territorial, in that the 'spatial and conceptual boundaries are defined not by reference to fixed, territorially delimited jurisdictional lines' (Karkkainen 2004: 77). Karkkainen's analysis of governance arrangements in the North American Great Lakes and the Chesapeake Bay Program

illustrates how elements of this ‘post-sovereign’ environmental governance are taking shape. This ‘post-territorial’ account begins to move beyond the usual spatial and scalar configurations of environmental governance, and acknowledges that the space and scale of the problem in question changes through competing interpretations. However, there is an assumption that the problems under consideration, and the governance arrangements which they provoke, are territorially integrated and delimited by ‘appropriate eco-regional scales’ (Karkkainen 2004: 92). Such an approach can not capture the range of hybrid, territorially disintegrated, transnational networks through which environmental governance takes place. Moreover, despite taking a ‘post-territorial’ approach, the spaces of environmental governance remain territorially rooted and the issue of scale treated in only cursory terms. In order to offer alternative geographies of environmental governance, which can move beyond the predominant configurations of space and scale, with the concomitant exclusions and omissions they implicitly create, an engagement with the literatures on the politics of scale and rescaling the state may prove productive.

NEW GEOGRAPHIES OF GOVERNANCE

As has recently been argued, ‘global environmental governance can not be understood separately from broader shifts in authority in global politics.’ (Paterson et al. 2003: 7). Several commentators suggest that an important dynamic in the shifting authority of global politics is the changing nature of state spatiality, in which the state is being reconfigured and rearticulated across spatial scales creating new ‘geographies of governance’ (MacLeod and Goodwin 1999: 505; see also Brenner 1998a, 1998b, 1999;

Elden 2005; MacLeod 2001; MacLeod and Jones 2003). These new geographies of governance have been variously described as a “new medievalism” (Anderson 1996), signifying the presence of overlapping and competing authorities at different scales, as “glocalization” (Swyngedouw 2000), the global local simultaneity of economic restructuring, or as the “hollowing out” of the state, as the functions of the state are redistributed upwards, to international and transnational organisations and institutions, downwards, to cities and regions, and outwards, to non-state actors (Jessop 2002; MacLeod and Goodwin 1999; Pierre and Peters 2000). To date, the implications of such shifts for global and other forms of environmental governance have largely been ignored. Despite differences in approach, all three perspectives suggest that the “politics of scale” is a key element in understanding shifts in the nature of the state and its authority, and hence for the nature of environmental governance. However, despite attempts to clarify the terms of debate (Brenner 2001; Purcell 2003), there remains some ambiguity as to what such a politics involves and, in particular, as to the ways in which concepts of hierarchy and territory are deployed in order to fashion an understanding of the politics of scale, as well as the extent to which scalar and network accounts of spatiality must necessarily be in opposition. After a brief outline of the debate, a novel interpretation of these issues is developed to support the argument that scalar and network perspectives are mutually constitutive, and the insights which can be derived from the politics of scale debate in relation to environmental governance are considered.

Scalar Politics

It has become an accepted truism within human geography that scales are socially and politically constructed, and thus contested (Brenner 2001; Marston 2000; McCann

2003). The politics of scale involves ‘continuous reshuffling and reorganisations of spatial scales’ which are ‘an integral part of social strategies and struggles for control and empowerment’ (Swyngedouw 2000: 70). Such struggles are important because ‘the particular ways in which scale is produced have material consequences. Scale making is not only a discursive practice, it is also the tangible outcome of the practices of everyday life as they articulate with and transform macro-level social structures’ (Marston 2004: 173; see also Boyle 2002). The notion of a politics of scale has been applied to an extensive range of issues, though most predominantly those concerned with the uneven development of capital, the changing nature of state power and regulation, and social action and contestation (Brenner 2001: 592; Swyngedouw 2004: 132). Despite the number of authors who increasingly examine the multiple politics of scaling, the criticism has been leveled that attention has primarily focused on capitalist production and the state, to the exclusion of issues of social reproduction and consumption (Marston 2000, 2004; Purcell 2003). Equally, the focus on the state has been preoccupied with the re-territorialisation, reconfiguration and re-articulation of the state as a result of, and with respect to, the processes of economic restructuring wrought by neoliberal globalisation, rather than with a wider conception of the regulative and governance roles which the state undertakes. As a consequence, questions of environment and its governance have remained outside much of this literature (though see discussion below, and Boyle 2002; Gibbs and Jonas 2001; Swyngedouw 2004).

The focus of analysis on the politics of scale and the state has been the process of rescaling, the ways ‘in which policies and politics which formerly took place at one scale are shifted to others in ways that reshape the practices themselves, redefine the scales to and from which they are shifted, and reorganise interactions between scales’

(McCann 2003: 162). Most analysts have taken a “relational” view of the politics of state scale, and focused ‘on the shifting organizational, strategic, discursive and symbolic relationships between a range of intertwined geographical scales and on the ramifications of such interscalar transformations for the representations, meanings, functions and organizational structures of those scales’ (Brenner 2001: 600). Equally, the emphasis has been on a “process based” understanding of scale, in which ‘scalar configurations’ are seen to be ‘the outcome of sociospatial processes that regulate and organize sociospatial relations’ (Swyngedouw 2004: 132; see also Brenner 2001: 604). As such, the ‘priority, both theoretically and politically, therefore never resides in a particular social or ecological geographical scale; instead, it resides in the socio-ecological process through which particular social and environmental scales become constituted and subsequently reconstituted’ (Swyngedouw and Heynen 2003: 912).

Underpinning this interpretation of the politics of scale is a rejection of the notion of scale as a bounded, territorially complete concept, and of any notion that social relations are “contained” at particular scales. This suggests that two of the most common metaphors for describing relations between scales, that of the “ladder”, where global, national and local scales are separately ordered above each other, or the “Russian dolls”, where discrete scales are contained within one another (Herod and Wright 2003), no longer suffice. As Amin has argued, ‘the growing routinisation of global network practices – manifest through mobility and connectivity – signals a perforation of scalar and territorial forms of social organisation. This subverts any ontology of territorial containment and scalar nesting’ (2002: 395). Consequently, in conceptualising the politics of scale it should be recognised that ‘scales evolve relationally within tangled hierarchies and dispersed interscalar networks’ (Brenner 2001: 605), so that the ‘the

very intelligibility of each scalar articulation of a social process hinges crucially upon its embeddedness within dense webs of relations to other scales and *spaces*' (Brenner 2001: 606). Not only does this entail the recognition that what constitutes the regional, urban or the local is not contained within a particular physical territory (Jones and MacLeod 2004; Painter 1999; Swyngedouw and Heyen 2003) but rather socially and politically constructed as such within and between variously configured networks of actors, but also that the very process of enrolling particular actors and networks into scalar constructions is part of the politics of scaling.

This reading suggests that the recognition of the networked nature of social relations does not necessarily preclude an analysis of scale. The potential for integrating scalar and networked accounts of spatiality depends on how the concept of network is conceived. Use of network terms and concepts has proliferated. For some, the 'typology of networks now extends to business and trade, policy and advocacy, knowledge and the professions, together with empire and terror, kinship and friendship, religion and migration' (Holton 2005: 209). For others, the mix is yet more diverse, including infrastructures, commodities, faith communities, transnational movements of all kinds, viruses, and spaces of emotional attachment (Amin 2004: 33-34). In seeking to bring some definitional clarity to this amorphous mass, various commentators have offered typologies of networks. Dicken et al. (2001: 92) distinguish between 'the use of the network as an *analytical tool*, which aims to map the topological structures of social relationships, and the network as a *form of governance*'. Leitner et al. (2002: 276-286) identify four different network debates, in economic geography concerning inter-firm linkages, regional economies and international trade, in the form of 'policy networks', through social network analysis, and in relation to 'actor-network theory'. Painter

(2004) provides a broader and more insightful account: *transmission networks* facilitate the flows of substances and agents, *social networks* are comprised of the links created by and through social relations, in economic, cultural and political spheres, *actor-networks* involve both the movement of material things and the simultaneous creation of social relations, while *topological networks* describe the complex spatiality of actor-networks. Within the literature on global environmental governance reviewed above, networks are primarily conceived as social networks, though an acknowledgement of the materiality of their operation and practice also lends itself to actor-network interpretations.

Thinking about networks in transmission, social or actor-network terms is not necessarily to exclude an understanding of spatiality through a relational and process based approach to the politics of scale. However, in drawing attention to the ways in which particular spatial fixes and scalar configurations are discursively, materially and institutionally constructed in order to strengthen the ‘power and control of some while disempowering others’ (Swyngedouw 2000: 71; see also Jones and MacLeod 2004), such scalar readings are sometimes regarded as antithetical to topological accounts of networks, a point which is returned to below.

Negotiating hierarchy and territory

Although both network and scalar approaches are concerned with social (and, in some cases, material) relations, they are often distinguished in terms of whether these relations are ‘horizontal’, in the case of networks, or ‘vertical’, in the case of scales. Despite the purported relational approach adopted in much of the literature concerned

with the politics of scale, there is a lack of clarity as to how relations between scales should be conceptualised. For Brenner, (1998b: 478) ‘the capacity of geographical scale to *circumscribe* and *heirarchize* social relations within relatively fixed and provisionally stablized configuration is central to their role as sources of power and control over social space’. Here, it is precisely the hierarchical (vertical) nature of scale which leads to the struggle to define and articulate particular processes and projects as taking place at or within particular scales. Indeed, Brenner has argued that in order to realise the theoretical potential of the concept of scale, ‘it is crucial to distinguish what might be termed scalar structurations of social space – which ... involve relations of heirarchization and reheirarchization among vertically differentiated spatial units – from other forms of sociospatial structuration, such as place-making, localization, and territorialization’ (2001: 603).³ This position may seem in contradiction to the assertion of the relational nature of processes of scaling and recognition of the (networked) connectivity of social relations. However, in the same paper, it is suggested that ‘processes of scalar structuration do not produce a single nested scalar hierarchy, an absolute pyramid of neatly interlocking scales, but are better understood as a mosaic of unevenly superimposed and densely interlayered scalar geometries’ (Brenner 2001: 606). The metaphor of a scale ‘mosaic’ has some resonance with Howitt’s conception of scale in musical terms, and his argument that it is ‘in cross-scale linkages, awkward juxtapositions and jumps, and non-hierarchical dialectics that the nature and significance of scale is to be found’ (Howitt 2003: 145-146). Whether or not ‘hierarchical’ conceptions of scale run counter to more fluid relational accounts of space, place and spatiality depends on how hierarchy itself is understood.

Surprisingly, for a term which is so critical to the discussion of scale and considering the level of debate the concept has received, the notion of hierarchy has attracted scant attention. In scalar discourse, the term is usually taken to mean that one scale is bigger or more extensive than another, so that scales are hierarchically ordered from the global to the local in ever decreasing circles. Arguments for a non-hierarchical conception of scale are primarily concerned with rejecting any such configuration (Howitt 1998; 2003; Marston and Smith 2001). However, Brenner's comments suggest there may be more to hierarchy⁴. Indeed, the OED definition of hierarchy suggests it has two meanings, either '*a ranking system ordered according to status or authority*' or '*an arrangement according to relative importance or inclusiveness*'. To date, conceptualisation of scalar relations in hierarchical terms has tended to focus on the latter, an arrangement according to the relative inclusiveness of different scales. Once the term is expanded to include relations of status, authority and importance, it is clear that hierarchies of scale do not necessarily need to be ordered in spatially extensive terms from the global to the local, but can take different forms depending on the social relations in question. For example, in a dispute over a particular development proposal, national government may find itself subsumed by European legislation and coalitions of local actors. In this reading, hierarchies (in so far as they pertain to relations of dominance and subservience) between social relations and processes constructed and constituted at different scales persist and structure the politics of scaling. In effect, processes of scaling and rescaling are one means through which hierarchies of social relations are reproduced, contested and reworked.

Others reject the notion of hierarchy. Herod and Wright (2002: 8) suggest that recognition of networked social and natural relations requires an alternative approach to

scale, based on metaphors of ‘the root system of a tree or perhaps in terms of the tunnels made by earthworms’ where discrete levels, and hence hierarchical relations between them, are removed. Whether it is meaningful to talk about the spatialities of such networked social relations in scale terms is moot. For some, what is needed instead is a ‘a reading of spatiality in nonlinear, nonscalar terms, a readiness to accept geographies and temporalities as they are produced through practices and relations of different spatial stretch and duration’ (Amin 2002: 389). For example, Smith (2003: 572) suggests a non-scalar topological account of global cities, in which ‘cities ... are hybrid and porous translocal sites that are criss-crossed by the multiple lines of networks that are more or less long and more or less durable’. Such approaches, born out of relational understandings of spatiality, seek to reject the naïve nested hierarchy of many accounts of scale together with territorial understandings of place, in order to recognise a topological account of actor-networks (Amin 2002, 2004). This approach rails against the ‘assumption that there is a defined geographic territory out there over which local actors can have effective control and can manage as a social and political space’ (Amin 2004: 36). From this view, the politics of scale is inextricably bound up with delineating particular physical territories of control (Amin 2002: 387). As this is ‘invariably misguided because such boundary acts are always false attempts to shut-out (or at least ameliorate the impacts of) translocal ties that in part constitute those places’ (Castree 2004: 135), those who advocate a relational approach to place are suspicious of the value of scalar or territorial accounts and place them in contradistinction to topological network readings of spatiality (Amin 2002, 2004; Amin et al. 2003).

There are at least three counter arguments. The first is that to assume scalar spatialities are necessarily wedded to simple territorial accounts of place is perhaps unfounded.

Indeed, far from taking a naïve view of the local, regional, or national as pre-given, homogenous and intact, those accounts emanating from debates on the politics of scale are concerned with the very processes through which such scalar constructions are wrought, and through which the rescaling of identities, governing structures, issues and so on, take place. Such processes, it is frequently contended, are not bound in territorial terms but take place through various networks and spaces of engagement (Cox 1998; see also Castree 2004; Cowell 2003; Jones and MacLeod 2004). Given that Amin (2002: 396) is at pains to point out that his arguments concerning the spatialities of globalisation are not intended to ‘deny the continuing existence and relevance of scalar practices and institutions’ nor to ‘question scalar politics’ it appears there may be at least some common ground here.

A second set of arguments relates to the issue of boundaries (see also Painter 2004). For those concerned with the politics of scale, a key concern is how boundaries around social/material relations are formed, and the resulting ‘continuous reorganisation of spatial scales’ as ‘an integral part of social strategies to combat and defend control over limited resources and/or a struggle for empowerment’ (Swyngedouw and Heyen 2003: 913). In contrast, those advocating topological approaches contend that in seeing the ‘world as a horizontality of relations’ there is ‘an infinite tangle of associations’, with ‘no masters and no servants’ (Smith 2003: 565). Drawing on Deleuze, the argument is made that ‘it’s not beginnings and ends that count, but middles’ (Deleuze 1995: 160-61, cited in Smith 2003: 565). The result, to give one example, ‘*is cities and regions without prescribed or proscribed boundaries*’ (Amin 2004: 34, emphasis in the original). The fluidity of network concepts seems to undermine notions of boundaries (Holton 2005). However, whether boundaries, the beginnings and ends, can or should

be so easily dismissed is problematic – as the experience of asylum seekers, individuals excluded from social networks, or households without connection to basic services all too readily illustrate. Moreover, network accounts are, of course, not without their boundaries, though these are often lost in the indistinct edges of networks and the lack of critical attention paid to delineating one network from another. A recognition that scalar boundaries are fluid and contested, and that networks are bounded too, may provide the basis for further constructive dialogue.

This leads to a third means through which the apparent opposition of scalar and network perspectives can be questioned, by considering the ways in which (bounded) networks have a scalar dimension (Brenner 2001; Leitner et al. 2002). Topological accounts refer to networks which are of ‘varying length and duration’ (Amin 2004: 34), or as ‘more or less long and more or less durable’ (Smith 2003: 572). These references to the scope of networks is similar to nested interpretations of scale which take ‘extent’ as the measure of spatiality. However, as the example of the CCP programme outlined in detail below makes clear, there is more to the scalar dimensions of networks than merely their extent and reach. The argument is made that once the concept of scale is freed from notions of contained and contiguous territories, and the socially constructed, relational nature of scale is taken into account, it is possible to argue that these networks have a scalar dimension, both in terms of the ways in which they operate and the ways in which they are framed, configured and crystallised.

From this summary, it appears that both those adopting a relational, process-based approach to the politics of scale and those who avow a non-scalar approach, share an acknowledgement of the networked nature of social relations and a critique of

perspectives which take scale as an ontologically pre-given, bounded and nested entity. While differences clearly remain in these perspectives, not least over issues of how hierarchy, territory and networks are conceptualised and their relative significance, this suggests that any polarisation of the debate into ‘scalar’ and ‘non-scalar’ perspectives should be avoided. Rather, ‘geographical scales and networks of spatial connectivity’ can be seen as ‘mutually constitutive rather than mutually exclusive aspects of social spatiality’ (Brenner 2001: 610).

Rescaling Environmental Governance?

The literature on the politics of scale has provided some significant insights into the socially and politically constructed nature of scale, and the ways which processes of scaling and rescaling are intertwined with struggles for dominance and control. That such processes are a key element of contemporary state spatialities is evident from the extensive literature which has examined the politics of scale and state restructuring, and in particular the role of cities and regions (Brenner 2003; MacLeod 2001). While the implications for environmental governance have largely been neglected in this literature, Gibbs and Jonas (2000: 303) argue that some parallels are evident in the UK where as part of the rescaling of the state, the national government has ‘explicitly devolved environmental responsibilities downwards’ through, for example, their emphasis on local authorities and Local Agenda 21 (LA21) as a key means of responding to the internationally agreed Agenda 21. At a general level, they suggest the rescaling of environmental governance ‘could well be indicative of struggles to reregulate local and regional economies in the wake of the regulatory crises of Fordism’, though the specifics of such struggles will vary with regional context (Gibbs

and Jonas 2001: 271). Whether the rescaling of environmental governance can be explained in terms of the same dynamic which has underpinned discussions of the politics of scale and the state in the wake of economic restructuring is moot. First, whether the emergence of the discourses and practices of local and urban sustainability, as witnessed by LA21, various initiatives sponsored by the European Commission, national governments, subnational authorities, and a wide range of non-state actors, can be read primarily as a response to the need to provide a balance to capital accumulation is debatable. For some, strategies for urban sustainability represent an alternative to, rather than the regulation of, the neoliberal economic project. Granted, some such alternatives – witness “smart growth” (Portney 2003: 101) and the “new urbanism” (Zimmerman 2001) – may not be much of an alternative, while others signal an attempt to gain a competitive edge through the promotion of green technologies or places to work, and yet more could be conceived as radical attempts to regulate the side effects of economic growth, for example, the recent congestion charge introduced in London. However, some, such as Local Economic Trading Schemes, or struggles over particular sites of development (new roads, mines, nuclear facilities and so on), seek to recast economic development in a different light (Owens 2004).

Second, while moves towards urban sustainability may be provoked by a legitimization crisis in the state, it is equally clear that this dynamic has not been primarily orchestrated by the nation-state. While moves to enhance urban sustainability have been present within various international arenas since the 1970s, it was the conjunction of the 1987 Brundtland Report, subsequent EU initiatives and the 1992 United Nations Conference on Environment and Development, which gave the concept significant impetus and legitimacy (Whitehead 2003). These initiatives were supported by various

non-state and quasi-state organisations, such as the ICLEI, and by local authorities and community groups, many of whom had been experimenting with and implementing urban sustainability in advance of these international shifts. Chapter 28 of Agenda 21, LA21, acted as a focal point for these ideas and networks, and in turn provoked action within and between local authorities, as well as at the national level through dedicated resources and programmes for those subnational authorities who are following this international agenda. While nation-states have played a role in creating and orchestrating LA21, given the central roles of local authorities, international institutions and non-state actors in its creation and reproduction, it can not be considered as a (nation) state strategy through which to devolve environmental regulation per se, though it may be used as such by some states. This suggests that the rescaling and rearticulation of the state is not only occurring in the economic realm and can not be reduced to considerations of the accumulation and regulation of capital alone.

One alternative reading of the rescaling of environmental governance can be found in the work of Cowell (2003) on the scalar politics of environmental compensation in Cardiff Bay. Cowell argues that not only do ‘relations of ecological and political scale frame the “decision space”’ (2003: 343) within which compensation takes place, and hence the flexibility for reconciling competing objectives, but also that in the process of “jumping scales”, so that the spaces of engagement (Cox 1998) surrounding a particular issue are rescaled by enrolling actors at a “higher” scale, the objects of governance are in themselves transformed. In a similar vein, Boyle (2002) has examined the politics of scale surrounding waste management in Ireland, and finds that the relational rescaling of waste between European, national and local scales of governance has led to the deployment of a regional scalar strategy for waste management by the central

government, which in turn favours end-of-pipe solutions such as ‘super-dumps’ and thermal treatment facilities. For Cowell (2003: 355) and Boyle (2002: 191), ‘the scaling of environmental governance ... makes a material difference to the kinds of transformations of nature that occur’, whether it be in how environmental compensation is conceived or how, and with what social and environmental implications, waste is managed. Gibbs and Jonas (2001: 284) suggest that ‘the regionalisation of environmental policy in England is an uneven and immature process’, with the material implications uncertain. These three cases point to the importance of scale politics shaping both the institutions and objects of environmental governance, and illustrate how such processes do not take place within a pre-given scalar structure, but are rather constitutive of the construction of particular scalar fixes and particular environmental outcomes.

CONFIGURING A NEW SPATIAL GRAMMAR OF ENVIRONMENTAL GOVERNANCE

Accounts of the rescaling of environmental governance have predominantly focused on the ways in which, through different networks of actors, the rescaling of environmental problems and their solutions has taken place between territorially delimited arenas of governance. This section considers how such approaches may be applied in the context of emerging network governance arrangements, using the example of TMN⁵. It is argued that, given that the CCP programme involves recasting a ‘global’ environmental problem in a ‘local’ light, insights from the scale debate provide a useful starting point for considering the configurations of environmental governance to which such networks

give rise. The analysis of the CCP programme suggests that, in contrast to the conventional accounts discussed above, a new ‘spatial grammar’⁶ of global environmental governance is taking shape through the re-scaling of the state in relation to climate change and through the creation of new spheres of authority within which climate change is being governed.

The CCP Programme and the Politics of Scaling Climate Change

Cities have been at the heart of debates about the new politics of scale. Analyses of global city-regions have documented how places such as Tokyo, London and New York have become drivers of the world economy (Brenner 1998a, 1998b; Scott 2001; Swyngedouw and Baeten 2001). Attention has also been directed to the regional scale as an arena through which economic development is increasingly orchestrated and promoted (MacLeod 2001), and to the role of subnational governments in regulating global capital (Paul 2002). Such shifts are frequently viewed as part of a state-based ‘accumulation strategy’, ‘through which cities throughout the world economy are being promoted by their host states as locational nodes for transnational capital investment’ (Brenner 1998b: 3). At the same time, ‘the pressure to create more competitive economic structures coincides with a more prominent role of local or regional forms of governance’ (Swyngedouw and Baeten 2001: 831). Cities are considered critical to the politics of scale because they function both as nodes of capital accumulation and as coordinates of state territorial power (Brenner 1998b). Through processes of rescaling the (nation) state directs subnational political economies in pursuit of global capital. Others point, however, to the importance of political and economic dynamics within cities and regions, crystallised in urban regimes or policy networks (Gibbs and Jonas 2000;

MacLeod 2001; MacLeod and Goodwin 1999; Paul 2002; Swyngedouw and Baeten 2001), or to everyday practices and competing narratives in scaling cities/regions ‘from below’ (Holm Nielsen and Simonsen 2003). Despite differences in argument, an emerging consensus suggests that processes of rescaling are recasting the role of cities and regions in the global economy and relations within state space.

However, two criticisms can be levelled at this analysis. The first, is that in adopting a scalar account of urban politics and state space there is a danger that the internal coherence and territorial contiguousness of ‘the city’, and its agency, is taken for granted in ways which do not allow for the ‘territorial perforation associated with globalisation’ nor the multiple constituencies and distanced relations which comprise cities as nodes in relational networks (Amin 2004: 33; see also Amin 2002; Painter 1999; Smith 2003). However, as argued above, in the main the discussion on the politics of scale takes into account the networked nature of “urban” processes and politics, suggesting that this criticism is over-stated. Perhaps more problematically, the emphasis has been on the ways in which the politics of re-scaling leads to increasing competition between cities, with little acknowledgement of how new forms of co-operation between cities, albeit with their own geographies of power and exclusion (Leitner and Sheppard 2002), are emerging, and the ways in which the re-scaling of the state is taking shape outside arenas directly connected to projects of economic liberalisation.

The CCP programme is one example of this alternative politics of scaling. Formed in 1993 by the International Council for Local Environmental Initiatives (ICLEI), it currently has over 600 members, accounting for over 8% of global greenhouse gas emissions. The network comprises an international secretariat in Toronto, Canada, with

regional campaigns in Australia, Africa, Europe, and South America, as well as national campaigns in Australia, America, Canada, Italy, Mexico, the Philippines and the UK. In joining the CCP network, members commit to passing through five milestones: conducting an energy and emissions inventory and forecast; establishing an emissions reduction target; developing a local action plan to achieve this goal; implementing policies and measures to this end; and undertaking processes of monitoring and verifying results. ICLEI provides local authorities with technical assistance and training to complete these milestones, through, for example, giving local authorities software specifically designed to profile urban emissions of greenhouse gases, and aims to raise awareness amongst local politicians and civil servants through workshops, training events and the exchange of best practice. The use of the milestone approach and the complementary software is also seen to be critical in terms of enhancing local accountability. By monitoring and reporting on the effects of their activities, it is argued that CCP members can see the results of their efforts to mitigate greenhouse gas emissions, persuade others of their effectiveness and the additional benefits – in terms of air quality or improving urban liveability – that they might bring. At the heart of the network is the argument that ‘global’ climate change is a ‘local’ issue:

If there is to be success in addressing the issue of climate change, then the reduction of GHG emissions must also be addressed at the local level. Most of the measures utilized by local governments to reduce GHG emissions also address concerns that dominate most municipal agendas. The Cites for Climate ProtectionTM (CCP) Campaign methodology results in local governments choosing GHG emissions reduction measures that bring such co-benefits as: financial savings through energy and fuel efficiency; green space preservation;

local economic development and job creation through the demand for energy efficiency and new energy systems; air pollution reduction; traffic congestion improvements; community livability improvement (ICLEI CCP 2004).

The CCP seeks both to rescale climate change as an issue with local causes and consequences, while at the same time reframing issues which are institutionalized and imagined as local – traffic congestion, green space – as having global dimensions. This discursive process of rescaling climate change takes place within the Secretariat through their lobbying of the international negotiations and promulgation of the CCP storyline (Hajer 1995), by officers within municipalities seeking recognition and resources and by sponsors of the network, such as the European Commission and various national governments, who seek to enroll local institutions and actors in mitigating climate change (Betsill 2001; Bulkeley and Betsill 2003). In seeking to draw the global-local relations of climate change, this discursive rescaling elevates local institutions and practices as an arena of influence and reduces the roles of international and national scales of governance. Such processes of rescaling do not only take discursive form in the CCP programme, but have a material dimension. At the international climate change negotiations, the CCP network represents local ambitions and achievements in the area of climate protection, highlighting the role of local authorities in addressing climate change, which most nation-states fail to do despite a requirement in the reporting procedures for the United Nations Framework Convention on Climate Change. By regulating and representing municipalities, the CCP bypasses the nation-state and gives local authorities the opportunity to take a position that may go against that of their national governments (as in the case of Australia and the US). Nonetheless, states have not been absent from the politics of scale engendered in the CCP. The US, Canadian

and Australian governments contribute significant financial resources to their national CCP programs and the US Agency for International Development financed pilot projects to establish the national campaigns in India, Mexico, the Philippines and South Africa. Likewise, the European Commission has provided direct funding to ICLEI Europe, and indirectly creates resource opportunities for transnational networks through competitive bidding procedures for particular projects or initiatives (Betsill and Bulkeley 2003). Moreover, the extent to which the knowledge, norms and resources generated through the CCP programme have been put to effect locally is in part dependent on the powers of municipalities, which are in turn reflective the politics of local governance, of central-local government relations, and the extent to which local governments, or other actors, are able to ‘outflank’ (Fairbrass and Jordan 2001) the nation-state in pursuit of their political aims and ambitions, through, for example, direct relations with supranational institutions, such as the European Commission (Bulkeley and Betsill 2003).

The CCP programme is one example of an arena within which a complex, contested and never complete politics of scale is emerging which is not driven primarily by responses to economic globalisation and consequent state restructuring. Here, the politics of scale involves attempts to reframe an issue which is usually considered in global terms within practices and institutions which are circumscribed as local, attempts by state and non-state actors to rehierarchize the relations between different levels of governance in relation to climate change, contests over the appropriate scope and reach of municipal governments, and conflicts over how climate change considerations should be taken into account in the arenas of housing, land-use, transport etc. which are primarily

governed within hierarchical relations between the local and central state (Bulkeley and Betsill 2003; Cowell and Murdoch 1999).

New Spheres of Environmental Governance

The CCP programme is not only engaged in rescaling relations between existing and emerging scalar constructs and institutions, but is also creating a new ‘sphere of authority’ (Rosenau 1997) within which the governance of climate change is taking shape. Several commentators have documented the increasing importance of new ‘horizontal’ arenas of governance in the form of policy networks (Borzel 1998; Kohler-Koch and Eising 1999; Marsh 1998) and as part of multilevel governance (Bulkeley et al. 2003; Fairbrass and Jordan 2001; Hooghe and Marks 2001). In relation to debates on the re-scaling of the state, several terms have been used to describe such new arenas, from the more or less territorially based ‘new state spaces’ (Brenner 1998b) and ‘newly configured territorial political spheres’ (MacLeod and Goodwin 2003), to ‘spaces of engagement’ (Cox 1998) and ‘new political spaces’ (Leitner and Sheppard 2002) which signify more networked forms of organisation. For example, Leitner and Sheppard (2002: 500) suggest in their account of inter-urban networks in Europe that:

‘cities and regions can further empower themselves, relative both to mobile financial capital and the hierarchical power structures of territorial states, by joining interurban networks ... Cities in competition with one another are easier targets for capital than are interurban collaborative networks, and networks transcending the boundaries of political territories create new political spaces for challenging existing territorial state structures.’

In their analysis, despite the role of the Commission and, in this case, the German government, in structuring and maintaining municipal networks, Leitner and Sheppard (2002: 511) suggest that networks do afford ‘opportunities for participating cities to strengthen their power and authority vis-à-vis the national and supranational scales.’ However, in this perspective, while municipal networks are part of the process and outcome of the ‘hollowing out’ of the state, and may create new political spaces through which cities can act, the scales through which political authority and social relations are constructed and conducted remain nested and hierarchical. An alternative view of such networks is to conceptualise them as part of a polycentric system of multilevel or multi-scalar governance (Betsill and Bulkeley 2004; Bulkeley et al. 2003; Hooghe and Marks 2001). As Sassen (2003: 11) has recently argued,

‘an important feature of this type of multi-scalar politics of the local is that it is not confined to moving through a set of nested scales from the local to the national to the international, but can directly access other such local actors whether in the same country or across borders.’

In this view, transnational municipal networks could be understood as a type of cross-border network which does not operate across existing scales, but which serve to destabilise ‘older hierarchies of scale and conceptions of nested scalings’ (Sassen 2003:3) by constituting a new sphere of authority which is not defined or contained by reference to a particular territory. The CCP programme illustrates this in two ways. First, as well as being engaged in the complex relations of governance with international institutions, states, and local governments described above, the CCP

programme is to an extent ‘self-governing’. Municipalities in the CCP programme undertake emissions monitoring and modeling in line with protocols established within the network, and report on progress with targets and projects to the network which benchmarks and rewards progress. Through such practices a new ‘authority’ for governing climate change has been established which does not reside at any particular scale, or in any particular territory. Second, the governing practices of particular members of the network are not confined to the municipality within which they are initiated. Two examples serve to illustrate this process.

Newcastle, Australia, was instrumental in establishing the CCP programme nationally, and has since played a significant role in its development. Commissioned to undertake various initiatives by the Australian Greenhouse Office (a federal government department) for the CCP programme, Newcastle’s approach to addressing energy efficiency and green energy has been disseminated via workshops, a road show, and publications to the majority of participants in the CCP-Australia programme. Among the leading local authorities in Australia in 2002 (as defined by their completion of Milestone 5), Newcastle was frequently mentioned as a source of inspiration, practical knowledge, ideas and support. Through their role in training other local authority officers and disseminating good practice, Newcastle have been instrumental in creating norms about the role of local government in climate protection as well as policy goals and practices. In this way, local government officers in Newcastle have effectively had a role in shaping how the governance of climate protection takes place across Australia. Similarly, Denver, Colorado is typically recognized as the model for the *Green Fleets* programme, which seeks to reduce greenhouse gas emissions from municipal vehicles, which has since been adopted by a number of CCP communities around the world. In

February 2000, a representative of Denver's *Green Fleets* committee traveled to Bangkok to advise officials there as they developed their own programme, and the initiative has also been adopted by other ICLEI-US participants both through direct contact with officials in Denver and through use of the best practice case-studies disseminated through the CCP programme. This is not to argue that the respective influence of Newcastle or Denver has been the only or even most important factor shaping the governance of climate change across different municipalities, but it is to suggest that through the CCP programme the practices, political authority and legitimacy of individual local governments has been stretched beyond the territorial borders of their jurisdiction.

This account suggests that the CCP programme, and other transboundary and hybrid networks, are not only engaged in a politics of scale framed in terms of re-scaling political authority among existing and emergent territorially bound political spaces but are engaged in creating a new sphere of political authority. The question then arises as to how the spatiality of such arenas can be conceptualised. While it could be argued that the CCP programme is engaged in creating a 'new state space', given that the members of the network are municipal governments, the hybrid nature of the network - it engages in action akin to state and non-state entities – suggests that there is more at stake than re-scaling state space. Rather, such new governance arrangements 'imply a partial disaggregation or 'unbundling' and reassignment of powers traditionally thought to be among sovereignty's most essential attributes.' (Karkkainen 2004: 77) to the network. However, while the CCP programme represents a 'territorially disintegrated' (Heeg et al. 2003: 143) network, it is neither de-territorial, as if set free from the messy intricacies of the politics of particular places, nor non-territorial, as some topological

accounts of networks maintain. The nature of the network – its norms, practices, knowledge and effect – is conditioned by the politics of particular places (e.g. Newcastle, Denver) and its impacts and implications are shaped by political authority constructed, contested and acted through particular territories of governance (e.g. planning regulations, building regulations), which in turn shape network practices and expectations. Rather than considering a politics of scale and a politics of networks as mutually incompatible, the CCP programme illustrates how network practices and processes of re-scaling the state are intimately articulated. Through rendering global climate change local, and local issues global, the CCP programme has been one means through which the re-scaling of climate change politics has taken place. Through ‘transcending the boundaries of hierarchical modes of governance’, the CCP network has, in some cases, ‘confront[ed] and disturb[ed] the dominant politics of hierarchical power relations within the nation-state’ (Leitner et al. 2003: 288). At the same time, in seeking to pursue a local politics of climate protection, officers, politicians and stakeholders have sought to align their actions both with the global ambitions of the network but also with the project of making place in a particular territory, as witnessed by the importance of awards, recognition events and benchmarking practices to members in the network. Here the project of defining and circumscribing a local place within which local coalitions, and the CCP network, seek to govern emissions of greenhouse gases is part of the project of re-scaling both the object of governance, in this case climate change, and the agents, here a global-local network of actors. That such attempts are contested by other networks and levels of governance in relation to the particular politics of the issues addressed – be they transport, planning, or housing, for example – illustrates how networks are engaged in the politics of scaling and re-scaling environmental governance. In the spatial grammar of environmental governance

configured by the CCP programme, networks, scales and territories are not alternatives, but are intimately connected in both a politics of scale, and in creating new arenas of political authority and legitimacy, through which climate change is governed.

CONCLUSION

The spatialities of environmental governance considered in this paper differ markedly from the traditional bounded geographies of the nation-state, inter-national relations, and non-state actors. The CCP programme is illustrative of the ways in which new geographies of environmental governance are taking shape. On the one hand, the nature, authority and territoriality of the state is being rearticulated and rescaled through the network, whilst simultaneously a new networked arena within which climate change is being governed is emergent. As Sassen (2003: 14) argues, the kind of ‘critical reconceptualization of the local’ which such networks provoke ‘entails an at least partial rejection of the notion that local scales are inevitably part of nested hierarchies of scale running from the local to the regional, the national, the international. Localities or local practices can constitute multiscalar system – operating across scales’.

This paper has argued that insights from the debate on the politics of scale can provide a means through which to reconfigure notions of environmental governance which can be simultaneously sensitive to processes of scaling and rescaling the objects and agents of governance, and the political, social and environmental implications, whilst at the same time engaging with the politics of networks. The reading of the politics of scale offered here entails three key points. First, that notions of scalar hierarchies should not be read

in terms of territorial extent, so that the ‘national’ is always ‘higher up’ the hierarchy than ‘the local’, but rather that the domination and subjugation of particular scales of (in this case) governing arrangements is part and parcel of the processes of scaling and re-scaling. This suggests that further work on the politics of scale should pay particular attention to the ways in which relations of hierarchy are constituted, constructed and contested. Second, and in a related point, a scalar reading of spatiality is not synonymous with one which is territorially bound. Analyses of the politics of scale are concerned with the processes through which particular scales and scalar relations come to be constructed and engaged in particular projects of governing, identity formation, economic development and so on, rather than labouring under the assumption that such territories are necessarily contiguous, bounded and homogenous. This is not to deny the import of territory, both in shaping those claims and in making material differences to the ways in which (in this case), environmental governance takes shape – witness Cardiff Bay (Cowell 2003), and Irish waste policy (Boyle 2002). It is, however, to suggest that debates over the politics of scale need to cut loose from territorial moorings too easily tied to naïve delimitations of scale as discrete units and entities. This requires an approach which does not take for granted, nor close off, the boundaries of the city, region, nation, global, local, individual, household and so on.

Third, in seeking to integrate a politics of scales with a politics of networks, this account argues that networks have a scalar dimensions which extends beyond their scope (Brenner 2001; Leitner et al. 2002). This suggests that those who are concerned with examining the politics of scale would do well to look beyond traditional spatialities of governing and regulation which tend to be orchestrated around territorial boundaries, and to engage with new political spaces which collect beyond and within this ordering.

Moreover, taken together, these points suggest that scalar and network readings of spatiality are not necessarily opposed, but may be mutually constitutive. As the example of the CCP programme illustrated, networks are formed through processes of scaling and rescaling environmental governance, are instrumental in such endeavours, while also creating new networked arenas through which governing takes place.

The approach developed here opens up the analysis of environmental governance so that it can move beyond nested hierarchies, the separation of levels of decision-making, and the divisions between territorially bound states and the fluid relations of non-state actors. Making space for such an analysis is not just a matter of conceptual significance. It offers a means to develop convincing accounts of the multitude of hybrid governance arrangements which are currently taking shape through various novel coalitions such as The Climate Group, a 'global coalition of cities, states, governments and corporates committed to collaboration to cutting greenhouse gas emissions',⁷ and forms of multilevel environmental governance (Fairbrass and Jordan 2001). A new spatial grammar, which makes room for the alternative geographies of scales and networks suggested here, can make such modes of governing central to our understandings of the politics of environmental issues.

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NOTES

¹ Elsewhere, such networks have been labeled ‘inter-urban’ (Leitner and Sheppard 2002) or ‘intergovernmental’ (Ward and Williams 1997) networks. Given that primarily comprise actors from within municipal governments and the connotation of connection between separate entities that ‘inter’ carries with it, the term ‘transnational municipal networks’ is preferred (Bulkeley et al. 2003).

² Though some argue that to date the analysis of global civil society, and its involvement in global environmental governance (if conceived as international negotiations), has focused on an ‘exclusive club’ of NGOs, which not only disempowers grassroots movements (Ford 2003) but is mistakenly seen as representative of ‘the public’.

³ In a detailed footnote, Brenner argues that his emphasis on the “verticality” of scalar relations, is not to deny the importance of what might be termed ‘horizontal’ forms of interscalar interaction and interdependence’ (2001: 610) but that these constitute different, mutually constitutive, forms of social spatiality. This argument is discussed further below.

⁴ Whether or not this is intended by Brenner (2001), who is often critiqued for an overly structured and top-down view of scale (Marston and Smith 2001; Holm Nielsen and Simonsen 2003), illustrating that the frequent ambiguity surrounding key concepts is one of the key flaws in the debate about the politics of scale.

⁵ Given the focus of the paper on environmental governance, and the predominance within these literatures of concepts of networks as either a ‘social network’ (Painter 2004) or as a form of governance (Dicken et al. 2001; Leitner et al. 2002), this example is related to this subset of the network literature.

⁶ The term ‘spatial grammar’ is derived from Scott’s phrase ‘a new social grammar of space’ (2001: 814), which he takes to refer to a new world system. MacLeod and Goodwin (2003: 4) pick up the term ‘grammar of space’ to examine the nature of ‘city and regional restructuring and the shifting architectures

of state power'. Amin *et al.* (2003) use the term descriptively to refer to the nature of the distribution of power in British politics. Given the multitude of ways in which the term 'grammar' might be interpreted it is worth stressing that here the term is not meant to connote a rule-based system, but rather to convey a sense of the ways in which the different elements which make up the spatiality of contemporary processes, institutions, identities – e.g. space, place, scale, network, territory – are articulated in particular moments to 'make sense' of a particular phenomenon. In contrast to traditional approaches to conceptualising spatiality, a 'new' spatial grammar would include different elements – e.g. networks, new political spaces – and different arrangements – e.g. horizontal as well as vertical forms of articulation – through which socio-spatial relations take shape and convey meaning.

⁷ The Climate Group (2004) 'World's leading greenhouse gas reducers meet in Toronto', Online, available: <<http://www.theclimategroup.org/440.php>> (accessed June 2004)