



Introduction to the Themed Section: Water Governance and the Politics of Scale

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ABSTRACT: This introductory article of the themed section introduces a series of papers that engage with water governance and the politics of scale. The paper situates the ongoing 'politics of scale' debates, and links them to discussions germane to water governance. We call for closer attention to the inter-relationships between power and social networks in studies of water governance, with particular reference to both institutional dynamics and scalar constructions. Framed in this way, we suggest that the engagement at the intersection of politics of scale and water governance moves the concept of scale beyond the 'fixity' of territory. The paper reflects on the ways in which the recognition of scale as socially constructed and contingent on political struggle might inform analyses of water governance and advance our understanding of hydrosocial networks.

KEYWORDS: Water governance, politics of scale, hydrosocial network

INTRODUCTION

This themed section focuses on the politics of scale in water governance. Although discussions within the social sciences (particularly geography) address these issues independently, little cross-fertilisation has occurred. We suggest – and this set of papers was motivated by the idea – that linking these debates more explicitly enriches our understanding of hydrosocial networks.

The papers included in this special issue were originally part of a session at the April 2011 meeting of the Association of American Geographers in Seattle, Washington. In the call for papers, the editors encouraged the authors to explore how we might forge new research directions that address questions regarding governance of flow resources, such as water, and the politics of scale. We welcomed the submission of papers focused on case studies, but strongly encouraged authors to articulate their analyses with the conceptual debates outlined above.

Briefly, our original interest in organising the conference sessions was to bring insights from scholarly debates over scale, rescaling, and environmental governance to bear on the study of water governance. Both scale and governance are currently salient issues for social scientists engaged with water issues, because significant scalar reforms to water management have taken place in the past few decades. Although varied, these reforms often entail devolution to lower scales of management, increased citizen participation, new decision-making processes, and new types of community organisations (e.g. watershed committees) (Bennett et al., 2005; Castro, 2008; Boelens et al., 2010).

Indeed, one might argue that a global trend of rescaling of water management (and environmental management more broadly) is taking place, in which community management is advocated as a means of improving efficiency, access, and sustainability (Sabatier et al., 2005; Conca, 2006; Agrawal and Lemos, 2007; Plummer and Armitage, 2007; Marshall, 2008; Berry and Mollard, 2010; Reed, 2010). This, in turn, is illustrative of a broader trend: the putative shift from 'government' to 'governance' in which non-governmental, and particularly local community actors, play a more significant role in environmental management than in the past (Rhodes, 1996; Pierre and Peters, 2000; Batterbury and Fernando, 2006; Gunningham, 2009; Perreault and Bridge, 2009).

Papers in this special issue draw on provocative critiques of rescaling that have emerged across the social sciences; for example, critical scrutiny of claims that 'local' or 'community' control is necessarily positive (Brosius and Tsing, 1998; Murdoch and Abrams, 1998; Agrawal and Gibson, 1999, Brosius et al., 2005; Ribot et al., 2006). Within this broader debate, scholars have assessed how communities and states are reshaped through rescaling environmental governance (Watts, 2004; Bulkeley, 2005; Ribot and Larson, 2005; Reed, 2010), and provided a critical assessment of the impacts of rescaling, linked with a critique of the analytical utility of scalar concepts (e.g. the watershed) (Brown and Purcell, 2005; Mansfield, 2005; Ivey et al., 2006; Norman and Bakker, 2009; Neumann, 2009, 2010).

Within this context, we summarise some of the key arguments in the scholarly literature regarding the politics of scale, and introduce the six papers of the themed section that engage with water governance and the politics of scale. Each paper takes a unique approach (see table 1), yet a consistent message from all of the papers is the call for closer attention to the interrelationships between governance, water, and social networks (power), and an emphasis on the role of institutional framings and scalar constructions in these processes. Through different case studies, the papers explore the sociopolitical intersections between environment and policy, to provide nuance to understandings of water governance. The diversity of articles in this themed section reveals that there is much room in geography, and the social sciences, more broadly, to continue to refine and redefine our understandings of hydrosocial processes and the politics of scale within water governance.

Table 1. Topics and themes of section.

Author	Themes	Location
Budds and Hinojosa	Hydrosocial / Waterscape / Political ecology / Resource extraction	Peru
Clarke-Sather	Hydrosocial / Food-water relationship	Northwest China
Johnson	Post-sovereignty / Scale and human – environment relationships	European Union
Norman	Transborder identity / Indigenous governance / Post-colonial	Salish sea, Pacific Northwest, (Canada, US)
Perramond	Water rights / Adjudication process	New Mexico (US)
Vogel	Watershed management / Environmental history	Columbia river basin (Canada, US)

POLITICS OF SCALE/SCALAR POLITICS

The scale debate has captured the interest of critical scholars for more than two decades (Smith, 1992; Swyngedouw, 2000; Swyngedouw and Heynen, 2003; Brown and Purcell, 2005; McCarthy, 2005; Sayre, 2005, 2009; Manson, 2008). The idea that scale is socially produced and contingent on political struggle (Delaney and Leitner, 1997) can be credited to the foundational work of Neil Smith, which has been central to the development of a large and productive literature theorising the 'politics of scale' (e.g.

Smith, 1992, 1993; Swyngedouw, 1997, 2004; Cox, 1998; Marston, 2000; Perreault, 2003, 2005). The debate has taken distinct directions over the years (for review of the scale debate, see: Brenner, 1997, 2001; Howitt, 1998, 2003; Marston, 2000; Smith, 2000; Sheppard and McMaster, 2004). Brown and Purcell (2005) usefully distil scholarly work on scale into three theoretical principles: "1) scale is socially constructed, 2) scale is both fluid and fixed; and 3) scale is fundamentally a relational concept".

Another noteworthy contribution to the ongoing debate is Marston et al.'s (2005) provocative argument that scale should be eliminated as an analytical concept, citing the problematic treatment of scale as "fixed, pre-given, or hierarchical". The response of various critics suggests that scale remains an important tool for the analysis of human-environmental relationships (Swyngedouw, 1997, 2004; Sayre, 2005; Jonas, 2006; Leitner and Miller, 2007; Brenner, 1997; Kaiser and Nikiforova, 2008). Kaiser and Nikiforova (2008), for example, argue that removing scale from the social science lexicon would weaken our ability to analyze power dynamics reliant on scale, through obscuring the processes and discourses whereby scales are constructed (see also Harris and Alatout, 2010).

This productive (albeit heated) debate on scale identified the need for clearer articulation of the use of 'scale' and more critical analysis of the politics at play in the construction of these spaces. In particular, closer attention to the power nexus of who (or what) is included and excluded in the discussions and constructions of scale. This debate has prompted scholars to be more precise about their use of the concept of scale, and more transparent about how to disentangle scale as a fixed unit and open up the between-ness of spaces and interrelationships and the ability to look at scale as a *process*.

Towards that goal, MacKinnon (2011) suggested replacing the established concept of *politics of scale* with *scalar politics*, arguing that "it is often not scale per se that is the prime object of contention, but rather specific processes and institutionalised practices that are themselves differentially scaled". Although the focus on process is not necessarily a new idea (as Jonas, 2006 suggests), the need to reinforce this approach is evident as confluences occur in our understandings of human-environmental dynamics (particularly as ideas are exported into management and policy realms) and lexicons become less precise (see, for example Cohen and Davidson, 2011).

In short, what these debates reveal is that "the unexamined use of scalar (or any other) categories is no substitute for the hard work of geo-historical synthesis" (Sayer, 1989). The ongoing engagement in discussions of scale provides useful insights into understanding the complex dynamics of the governance of flow resources such as water. A consistent message from the papers in this themed section is the need for closer attention to the inter-relationships between power and social networks in studies of water governance, with particular reference to both institutional dynamics and scalar constructions. Framed in this way, we suggest that analyses of water governance enable engagement with the concept of scale beyond the fixity of territory.

WATER GOVERNANCE AND THE POLITICS OF SCALE

Although a flurry of discussions regarding the politics of scale has occurred in the social sciences, particularly geography, much of the debate has revolved around political economy and the flows of capital (Brenner, 2001; Swyngedouw, 2004). Questions of environmental governance have remained largely excluded from this literature, although studies of the relationship between water governance and scale have refined thinking about human-environmental and hydrosocial relations (Gibb and Jonas, 2001; Liverman, 2004; Brown and Purcell, 2005; Bulkeley, 2005; Fall, 2005, 2010; Perreault, 2005, 2008; Molle, 2006, 2009; Budds, 2009; Norman and Bakker, 2009; Bakker, 2010; Dore and Lebel, 2010; Harris and Alatout, 2010; Linton 2010; Cohen and Davidson, 2011; among others). However, as Budds and Hinojosa note in their contribution to this section,

[a]lthough this body of work has acknowledged the scalar dimensions of water governance and has demonstrated that both water and its governance are politicised, linkages with the politics of scale – the recognition that scale is both socially constructed and politically mobilised – are relatively nascent.

Although it has come to be commonly understood in the social sciences that scale is "socially constructed, historically contingent and politically contested" (Smith, 1992; Agnew, 1997; Swyngedouw, 1997), the transferability of that framing is often lost on the water user (as Perramond shows in his paper, this issue). Similarly, the impacts of these spatial constructions are felt unevenly – socially, economically, politically, and environmentally (Gelles, 2000; Byrne and Wolch, 2009; Byrne, 2011; Norman, this section) – and the complexities of these interrelationships are understudied (Budds and Hinojosa, this section).

Furthermore, systems currently in place to govern water follow (and often reify) socially constructed political demarcations that aim to fix water to a territorial scale for the purposes of management (Molle, 2006, 2009; Norman and Bakker, 2009; Cohen and Davidson, 2011). As such, various highly fragmented systems are in place to govern perhaps one of the most interconnected flow resources on the planet. The complex interconnections of human-environmental issues (specifically, the interscalar and politically complex nature of flow resources such as water) continue to complicate and challenge current governance systems.

A growing body of literature supports the argument that a scalar perspective is crucial for understanding water governance (Swyngedouw, 1999; Harris, 2002; Sneddon, Harris et al., 2002; Sneddon, 2003; Feitelson and Fischhendler, 2009; Harris and Alatout, 2010; Sneddon and Fox, 2006). Further, Harris and Alatout (2010) suggest that linking more explicitly the literatures on state and nation building to water governance and scale would help strengthen our understanding of the complex dynamics that interface between nature and society (see also Kaiser and Nikiforova, 2008; Kuus and Agnew, 2008). Attention to the "iterative process and practices" which seemingly fix scales is an important part of this work (Harris and Alatout, 2010). Furthermore, there is still great need both in the natural resource management sector, and within academe, to continue to unpack and disentangle assumed spaces and scales of governance, not least the watershed scale. Cohen and Davidson (2011), for example, show that the watershed scale remains undertheorised and that the conflation between tool and governance unit has muddied the waters for analysis. Deemed failures of watersheds, writ large, are often linked to difficulties or shortcomings with the process of multistakeholder governance.

Two concepts have emerged to provide an interface between nature and society: 'waterscapes' and hybrid constructs. A growing body of literature employs the concept of waterscape as an analytical tool to articulate, more explicitly, the linkages between water, power, politics, and governance (Swyngedouw, 1999, 2004; Harris, 2006; Loftus, 2006, 2007, 2009; Loftus and Lumsden, 2008; Budds, 2008, 2009; Ekers and Loftus, 2008). The conceptualisation of water as a hybrid construct or a produced socio-natural entity (Swyngedouw, 1999, 2007; Bakker, 2003a 2003b; Loftus, 2007; Linton, 2010) affords the opportunity to analyze how water and power mutually constitute each other. These ideas are advanced in several of the papers in this section (see, in particular, Budds and Hinojosa). Engaging in scalar debates allows us to continue to refine and redefine our understanding of complex human-environmental relationships. Thus, as suggested by scholars such Harris and Alatout (2010) and Jonas (2006), engagement in the *process* of understanding these relationships is the critical component of the analysis.

In bringing together discussions on the politics of scale and water governance, the set of papers in this section offers the following contributions: (i) analysis of the processes through which scale is socially constructed, which enables engagement with water governance beyond the fixity of territory; (ii) engagement with current processes of re-scaling, and critical analyses of new scales such as the watershed (which have very real impacts while simultaneously being socially constructed); and (iii) an analysis of the changes wrought in power dynamics, organisations, institutions (understood in the sociological sense of rules, norms, and customs), and social networks via these rescaling processes. The

papers thus present a critical realist perspective on scale: fully aware of the nuances of the social construction of scale, yet cognisant of the very real, material impacts of scale and rescaling processes.

OVERVIEW OF THEMED SECTION

The six articles presented in the themed section engage in the discussions of the politics of scale and water governance in very different ways. Several of the papers in this issue, engage explicitly with hydrosocial networks (Budds and Hinojosa, Clarke-Sather, Norman). Two of the papers explore the relationships between the politics of scale and spaces of exclusion, with Norman analyzing transboundary water governance for indigenous communities and Perramond using spaces of adjudication. Vogel provides a historical environmental analysis of the management of the Columbia river basin to critique watershed and river basin management, while Johnson engages with notions of territoriality, sovereignty, and governance while examining the EU Water Framework Directive.

In their article, *Mining and changing waterscapes in Peru: Reflections on water governance, power and scale*, Budds and Hinojosa deploy the concept of waterscape to characterise the complicated interactions that occur within hydrosocial relations. They argue that

the concept of a waterscape represents a useful framework through which the multiple processes and dynamics that mediate water and water issues over time and space can be brought together in a way that avoids the limitations of thinking about water in purely material terms, structuring analysis of water issues into traditional spatial scales, and examining social relations in accordance with hierarchical forms of institutional administration.

A waterscape approach suggests that it is the linkages or connections (rather than the scales per se) that allow us to insert power dynamics (both material and discursive) and contestations more readily into the analysis of water. Using this approach the authors look beyond the conventional and hierarchical administrative structures that characterise water governance. Rather than explaining the relations in terms of jumping scales, they suggest that the actors are occupying different spaces at different moments. They use the examples of members of the corporation operating in different capacities and different locales at different times – none of which fit neatly into a scalar representation.

On a related point, Clarke-Sather explores rescaling of hydrosocial governance through the analysis of changing agricultural economies. In the paper, *State development and the rescaling of the hydrosocial cycle in Northwest China*, Clarke-Sather explores the changing food-water nexus through an investigation of changing economies and hydrosocial networks and finds these changes were precipitated by policies that originated outside of what is traditionally considered water governance. As such, Clarke-Sather argues for broadening the understanding of scale in hydrosocial relations to capture the complexities of changing political economies and interactions with water.

In his paper, *Towards post-sovereign environmental governance: Politics, scale and EU Water Framework Directive*, Johnson analyzes the de- and re-territorialisation of environmental governance and the changing character of sovereignty in the EU. Johnson characterises the changes in water management as a form of "post-sovereign environmental governance" (Karkkainen, 2004). Johnson's paper sheds light on the interplays between scale and environmental governance by exploring the reconceptualisation of the EU as a heterogeneous political-territorial construction, rather than just a sum of intergovernmental organisations. This shift in scale provides insights into the connection between political re-scaling and environmental governance.

Perramond illustrates how the categorisation of scale (in its different iterations) is fundamental to the process of water governance and water rights adjudication in the state of New Mexico (US). In the New Mexico case, Perramond shows how multiple views of scale (and utility of scale) are enacted. On the one hand, he notes that one could argue that the state is omnipresent even at the local level, which adds validity to the flat ontology of scale. However, ultimately, the use of scale as a socially constructed container of analysis proved useful to his analysis. Unlike, Budds and Hinojosa, who reject this form of

scalar framing, Perramond shows how the framings of scale are very pragmatic for water users: "Although the academic sense of the politics of scale remains contested, these debates seem largely abstract to most water users, even if they materially and rhetorically engage in multiple levels of scalar politics". Perramond's paper illustrates how the priorities of the stakeholders influence the different ways that scale is mobilised, and how scalar politics operate in different settings. The framing of scale arguments that Perramond presents "ranges from the biopolitics of individual water rights holders, to the new regionalisation of ditches due to adjudication, to considerations at the larger watershed level".

Norman takes the debates in a different direction by exploring the politics of hydrosocial networks in a transboundary setting, in her paper *Cultural politics and transboundary resource governance in the Salish sea*. Through the analysis of a new governing body created by indigenous leaders in the Salish sea region of the United States and Canada (Pacific Northwest), this paper adds to the small body of literature that has made contributions linking the politics of scale debates to the issues of transboundary natural resource management (Fall, 2005, 2010; Furlong, 2006; Norman and Bakker, 2009). She takes these discussions further by including cultural politics in the investigations of water as a socionatural hybrid (which is important particularly – but not solely – in a postcolonial context).

Vogel examines the use of watershed and river basin governance through an in-depth historical analysis of the Columbia river basin (Canada and US). In her paper, Vogel argues against the commonly accepted notion that hydrologically-based governance territories foster 'holistic management' and yield positive results. Instead, she shows how the results are mixed, and in some cases watershed and river basin governance facilitate environmentally destructive river management, ongoing litigation, and inefficient political distribution. Vogel identifies these governance patterns as a way of 'parcelling out the watershed', that has produced changing, but discernible, patterns of both positive and negative environmental, social, economic, and democratic outcomes. She argues that the institutions, practices, and outcomes of river basin and watershed management can be improved by deeper understanding of politics and history and more critical thinking about the consequences of river basin and watershed territories.

Each paper highlights the need for continued engagement in discussions of water governance and the politics of scale. The papers show the need for closer attention to the processes and interrelationships between power and social networks in water governance, with particular reference to both institutional dynamics and scalar constructions. In closing, the observations that there is nothing inherent about scale (Brown and Purcell, 2005) and nothing inherent about water politics (Ingram, 1990) underscore the need to continue to refine our analyses of the hydrosocial cycle in all of its complexities.

ACKNOWLEDGEMENTS

We would like to thank the editors of *Water Alternatives* for their support in running this set of papers as a themed section. Thanks, in particular, to François Molle, for his continued engagement, support, and encouragement throughout the entire process. Thanks to the participants of the sessions on water governance and the politics of scale at the Association of American Geographers Conference in Seattle, Washington (2011) (on which this section is based) and to the audience members who participated in the rich discussions. In addition, we express gratitude to all of the reviewers who provided thoughtful and insightful comments which strengthened the papers and to Brittany Flaherty for her help copy-editing the papers in this section. We would also like to acknowledge the generous financial contribution from the Social Sciences and Humanities Research Council to help defray the costs of this themed section. Lastly, thanks to all of our peers and colleagues at the Program on Water Governance at The University of British Columbia, particularly Alice Cohen, Leila Harris, and Gemma Dunn for their ongoing support and collaboration.

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