



Assembling the water factory: Seawater desalination and the techno-politics of water privatisation in the San Diego–Tijuana metropolitan region



Joe Williams

Department of Geography, Durham University, Lower Mountjoy, South Road, Durham DH1 3LE, United Kingdom

ARTICLE INFO

Keywords:

Assemblage
Urban political ecology
Infrastructure
Neoliberalism
Water
Desalination

ABSTRACT

This paper is about the peculiar particularities of the dual trends towards urban water privatization and commodification. It uses as its analytical entry point the extraordinary emergence of large-scale seawater desalination, delivered through public-private partnerships, as an alternative municipal water supply for the San Diego–Tijuana metropolitan region. The paper engages and extends Karen Bakker's work on water as an 'un-cooperative commodity'. Interrogating the neoliberalization of water through desalination, it is argued, requires reference to the socio-technical relations drawn together under the 'desalination assemblage'. Such water treatment technologies –and the social relations that flow through them– are, in other words, efficacious in the market-disciplining of water. The paper presents an understanding of privatization and commodification as diffuse, and as unfolding through multiple and contradictory materially heterogeneous relationships. Drawing on both urban political ecology (UPE) and assemblage thinking, the paper calls for a more constructive dialogue between different concepts of socio-material relationality. The empirical case studies of two large seawater desalination plants (one in Southern California, one in Baja California) and the re-configuring relations of public/private water governance associated with these projects, provides a pertinent imperative for greater attention to be paid to contingency and heterogeneity in our understanding of the ecology of capitalism.

1. Commodifying the Pacific Ocean

In December 2015, San Diego County, California, underwent a dramatic metabolic transition in its hydro-social cycle. After nearly two decades of planning and development, the rather arduously named *Claude 'Bud' Lewis Carlsbad Desalination Plant* began producing purified seawater for the county's growing urban economy and its 3.3 million residents. Currently the largest desalting facility in the Western Hemisphere, the Carlsbad plant has the capacity to meet 10% of San Diego's potable water demand. In a region that has historically maintained public control of water services, this billion-dollar project, as well as being an important element of San Diego's strategy to localise and diversify its water supply portfolio (SDCWA, 2016), also represents a significant re-configuration of the social and political relations of water. The result of a public-private partnership between a Connecticut-based venture capitalist firm, Poseidon Resources (the project developer) and the San Diego County Water Authority (hereafter, SDCWA), the county's water wholesaler, the Carlsbad water factory produces a commodity, H₂O, from seawater, which is sold to San Diego's water users at more than double the price of established water supplies. Just along the coast, about 30 km south of the U.S.–Mexico border at Rosarito Beach, the world's first 'binational' seawater

desalination project –which will be double the size of Carlsbad– is currently under development. When complete, it will supply purified seawater to Mexican and U.S. water districts in the Colorado River basin. Again, this project will be delivered through an unprecedented partnership between the State of Baja and a company called NSC Agua (the project developer). The commodity produced at the Rosarito water factory will be sold, firstly, to Tijuana's public service department (Comisión Estatal de Servicios Públicos de Tijuana), and secondly, to U.S. off-takers by an intermediary water trading company, either by pipeline transfer (as 'wet water') or through the transfer of water entitlements on the Colorado River ('dry water').

This paper considers the peculiar particularities of the dual trends towards water commodification and privatisation (Bakker, 2005; Castro, 2013; Page, 2005; Swyngedouw, 2005). Through an analysis of the extraordinary technical, discursive and political work of assembling desalination plants as viable decentralised water sources, I argue for an understanding of these meta-political and economic trajectories as complex, diffuse, contingent, and as socially and materially heterogeneous. The principle empirical aim of this paper is to demonstrate how processes like privatisation, which are often considered to be directed, logical and coherent, always unfold through the re-forging of highly complex and contradictory, socio-material relationships.

E-mail address: joseph.g.williams@durham.ac.uk.

<https://doi.org/10.1016/j.geoforum.2018.04.022>

Received 3 September 2017; Received in revised form 26 April 2018; Accepted 27 April 2018
0016-7185/ © 2018 Elsevier Ltd. All rights reserved.

Furthermore, I attempt to uncover how the ‘generative principles’ of the real subsumption of nature by capital (Smith, 1984), intersect with existing assembled actors and factors, including geophysical processes, alternative forms of accumulation, techno-legal configurations and governing institutions. This explicit engagement with heterogeneity – or the unpacking of the material embeddedness of political economy – is intended to build on and extend Karen Bakker’s seminal work on water as an ‘uncooperative’ commodity (Bakker, 2003). In particular, the key purpose here is to demonstrate how the enrolment of particular technologies and materialities by various interests, and the resultant techno-political configurations drawn together in the desalination assemblage, are efficacious in the market-disciplining of water.

In mobilising the case of privatisation by desalination in Southern California and Baja California, this paper places two literatures, which so often lie as incongruous bedfellows, into dialogue. The first – the political ecology approach – understands the privatisation and neoliberalisation of nature as part of broad political economic movements emerging from the dialectical contradictions of capital. The second – the assemblage approach – elucidates contradiction and contestation by extrapolating focused analysis of particular socio-materialities – say, of a specific technology. The central divergence between these two approaches, I argue, is their handling of the politics of relationality. Where the former begins with a whole (capitalism) and teases apart the relationships through which the whole is constituted, the latter attempts to assume no whole, but builds up a picture of heterogeneous relations from principal materialities, be they people, animals or things. With some exceptions, attempts to integrate these two approaches in geographical research, particularly through empirical analysis, have often struggled theoretically. Yet, as Ranganathan (2015) has argued, there is great conceptual and political potential in greater cross-fertilisation between political ecology and assemblage thinking. Through an analysis of the technological and material configurations of desalination, and their efficacy in reconfiguring the social relationships of water, this paper represents an attempt to bridge this gap. In a word, I aim to demonstrate how mundane materialities really matter in political economy and political ecology research.

Both infrastructure projects analysed in the paper, although differing in many ways, have entailed significant reconfigurations between public and private governance of water. The particular materialities of the desalination assemblage are paramount in these changing configurations. For instance, both projects were conceived as public ventures. In both cases, however, the projects were appropriated by private companies that were able to insert themselves as developers by purchasing or leasing the prime land adjacent to coastal thermoelectric power stations, which guaranteed the economic and permitting benefits of co-location. In this sense, the formulation of neoliberalisation as a conjunct, albeit piecemeal, process between the state and private capital towards market governance (Heynen and Robbins, 2005; McCarthy and Prudham, 2004) is challenged, and instead presented as more diffuse and contested. The manner in which desalination has been assembled in these two cases, it is argued, has been efficacious in the privatisation and commodification of water, both by opening up new opportunities for the insertion of private capital, and, because of the high price of desalted water, contributing towards pricing conditions necessary for the development of market institutions.

The data presented in this paper was collected during the course of field research in 2014 and 2015, involving 36 expert interviews, extensive documentary analysis, and archival research, conducted at San Diego State University, the San Diego History Centre, the San Diego Public Library and the National Archives in Washington DC. The paper proceeds in four parts. I begin by outlining the theoretical rationale in more detail, before considering the materialities of water as forming barriers to accumulation and outlining the particularities of desalting technologies as ‘market disciplining’ this uncooperative commodity. The empirical sections of the paper then interrogate the ways in which desalination infrastructures are re-configuring the social relations of

water in Southern California and Baja California. The analysis of the two desalting plants is not presented as a comparative study, but is intended rather to mobilise the explanatory potential of distinct – yet overlapping – governance contexts.

2. Infrastructural assemblages

The extraordinary emergence of water desalination in just a few short decades from fringe water source to a global industry, increasingly the focus of techno-managerial solutions to urban water stress, has lately attracted critical attention in urban studies. By essentially reversing the hydrological cycle, causing water to flow from the sea to the land, the inclusion of desalted seawater in the supply of a neighbourhood, city, region or country reconfigures the social, political and economic relations of water (Feitelson and Rosenthal 2012). Critical perspectives on these large emerging infrastructures have conceptualised desalination as: (1) a technological fix to water scarcity (Fragkou and McEvoy, 2016; March et al., 2014; McEvoy, 2014); (2) a spatial-political fix for increasingly contested terrestrial water supplies (Swyngedouw, 2013; Swyngedouw and Williams, 2016; Wilder et al., 2016); and (3) as an accumulation strategy for the global water industry (Loftus and March, 2016). This paper, while broadly part of this literature on the transformation of the hydrosocial cycle through desalination, is distinct in that it attempts to bridge the conceptual gap between detailed analysis of materiality and general trends in water governance.

The increasing involvement of private capital in governing water, and urban water in particular, should first and foremost be understood in relation to broader processes of the internalisation of nature by capital. “Capitalism,” as Moore (2015, 2) argues, “is not an economic system; it is not a social system; it is a way of organizing nature.” Moreover, commodification of water and the privatisation of water bodies and water services over the last 30–40 years is intimately connected to the neoliberalisation of nature – or the nature of neoliberalism (McCarthy and Prudham, 2004), as what Castree (2008) calls the current ‘shell’ of the capitalist mode of production. Indeed, the transformation of the social relations of water consistent with the market logics of privatisation, (de/re)regulation, commercialisation and corporatisation are key hallmarks of the neoliberal era. Neoliberalism is then, at its heart, an environmental project, and one in which the objectives of economic liberalisation are advanced through the reshaping of socio-ecological relationality (Heynen et al., 2007; Heynen and Robbins, 2005; Himley, 2008; Mansfield, 2007). As Bakker (2013) notes, the broad processes that we understand as the neoliberalisation of nature have involved a double movement of, firstly, the increasing private ownership and management of nature and resources, and secondly, the use of market logics and market proxies in the governance of nature. Attention has been drawn to the extension of capitalist relations into nature via, for example, payment for ecosystem services, carbon trading, mineral extraction in indigenous lands, land grabbing, and the privatisation of urban infrastructural services.

Yet, studies that rely too heavily on purely Marxian notions of the (under)production of nature, without engaging posthuman or more dispersed notions of materiality have a “tendency to move too rapidly from the concrete to the universal, so that diverse materialities become conflated into the unitary category ‘nature’” (Bakker and Bridge, 2006, 11). Assemblage thinking is therefore advanced as a useful set of conceptual tools and terminology to work through some of the theoretical challenges unresolved in Marxist thought. The concept of the ‘desalination assemblage’ is used throughout. This is intended to connote two key notions of the assemblage literature. The first is that of emergence. Although Featherstone (2011) points out a tension in some assemblage thinking between conceptualising assemblages as relational processes or as constituted ‘things,’ there is nevertheless general emphasis on flux, contingency and dynamism, and to uncovering the multiple movements that together constitute an effect. The process of assembling, rather

Download English Version:

<https://daneshyari.com/en/article/7353424>

Download Persian Version:

<https://daneshyari.com/article/7353424>

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