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Abstract

This chapter outlines the aims and content of this volume, delving into the complex and often hidden connection between water, technological advancement and the nation-state. The chapter initially delineates the main theoretical and conceptual approaches underpinning our understanding of how water resources are enmeshed with multiscalar processes related to technology and the nation-state. It then provides an overview of the contributions to this volume, outlining how all of the case studies unfold through choreographies of oppression and domination, while also, and inevitably, bringing to the fore the opportunity to enact strategies of resistance and contestation aimed at sharing water resources more equally.

Introduction

We live in times marked by increasing concern over an imminent water crisis. Any query of 'water wars' on an online search engine will generate thousands of hits even if the search is limited to only the most recent year. Journalists and policy analysts quarrel over whether the first water war in history will be fought, for instance, between China and India over the waters of the Brahmaputra River, between Arizona, California and Nevada for the water allocation of Lake Mead, or between Mexico and the United States over the desiccating Colorado River. The underlying assumption in many of these accounts is that sooner or later humans will have to engage in a war against droughts, as if the latter were driven by some sort of divine or natural process over which humans have no control. In addition to nurturing the view of an imminent ecological catastrophe, this representation of the dualist vision between humans versus nature overlooks the inherent power dynamics and the interconnected

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processes through which nature is socially and materially produced, transformed, and contested (Heynen et al., 2006). The axiom that our planet (and its human inhabitants) needs to be saved from a looming crisis is based on the notion that an originally pristine and stable nature, but now disturbed, needs to be restored to its original state (Castree, 2014), which needs to be preserved if ecological harmony is to be maintained. Although such benign original state never existed, this view also disavows that the predicted future crisis is already here for many people and places; they already live in the midst of a crisis.

Global inequality has taken extreme forms. Hundreds of millions of people are stuck in poverty while only eight individuals own the same wealth as half of the world's population (Oxfam, 2017). The world's poorest are the most vulnerable to climate change and environmental calamities caused by extreme weather events (IPCC, 2012), as demonstrated by the consequences of Super Typhoon Yolanda in the Philippines or hurricane Katrina in New Orleans (see for instance Smith, 2006). Disadvantaged populations globally carry the burden of environmental degradation, and the water sector is no exception. The 2015 WHO report on "Progress on sanitation and drinking water" (WHO, 2015) paints a stark and disturbing picture: globally, 2.5 billion people lack improved sanitation, and 1.1 billion people practice open defecation. By 2025, 1.8 billion people will be living in conditions of absolute water scarcity, as their annual water supplies will be below 500 cubic metres per person per year (to put this in context, in 2014 water withdrawals per capita in Estonia amounted to 1,231.7 cubic metres, in Greece to 869.3 cubic metres, and in Mexico to 709.4 cubic metres; OECD, no date). The two latest UN World Water Development Reports (WWAP, 2017; 2016) warned that the global water crisis is caused by poor governance rather than by resource availability, stressing the need for new inclusive technical solutions. Yet, this is done through the adoption of a depoliticising language which nurtures and advocates a techno-managerial framing that advances economic and technological solutions, rather than politically challenging the way in which we manage and consume the planet's natural resources (Rogers et al., 2016; Williams et al., 2014).

Indeed, water is not just a natural resource and a physical agent, but it is also deeply embedded in social, political, and economic processes (Mollinga, 2008; Swyngedouw, 2006). While the former view has championed technocratic approaches to water management based on narratives that are primarily informed by the natural sciences (Sharp, 2017), the latter are illustrated by deepening processes of appropriation of water resources by powerful actors and

the parallel dispossession of weaker or marginalized social groups (Mehta et al., 2012). Appropriating water assigns power to those who control it (Norman et al., 2015), and hydraulic infrastructures can consequently be used to wield power and to enact hegemonic and counter-hegemonic strategies. Due to its unique nature, high-level bureaucrats and technocrats tend to perceive and portray water as a national asset constituting an integral part of 'the homeland'. Just like space, territory, and society can be socially and politically co-constructed, so is water, and as a result the construction of large hydraulic infrastructures can be mobilised by politicians to consolidate their grip on power while nurturing their own vision of what the nation is or should become. This book will delve into the complex and often hidden connection between water, technological advancement and the nation-state, addressing two major questions. First, the arguments deployed in this collection consider how water as a resource can be ideologically constructed, imagined and framed to create and reinforce a national identity; and, second, how the idea of a nation-state can and is materially co-constituted out of the material infrastructure through which water is harnessed and channelled.

These questions will be addressed though a range of theoretical and empirical interdisciplinary contributions covering four continents. As the case studies will illustrate, the meaning and rationale behind water infrastructures goes well beyond the control and regulation of water resources, as it becomes central in the unfolding of power dynamics across time and space. Before providing an overview of the content of each of the chapters, this introduction delineates the main theoretical and conceptual approaches underpinning our understanding of how water resources are enmeshed with multiscalar processes related to technology and the nation-state.

Water beyond H_2O

Water is a chemical substance whose molecule is formed by two hydrogen and one oxygen atoms (H_2O). Water tends to be liquid, but can also be found in solid (ice) and gaseous (vapour) forms nearly everywhere in and on our planet. Water is thus fluid, transient, at times intangible and an ubiquitous prerequisite for life for which there is no substitute. It is perhaps for these attributes that water is arguably the most intersectional and interdisciplinary among all natural resources. Bridges are built to go over it, but water also bridges the gap between the natural and social sciences. In addition to specific water-related disciplines such as hydrology and hydraulic engineering, many other (and in certain cases less obvious)

disciplines have taken an interest in water, including anthropology, science and technology studies, economics, theology, political science, international relations, law, archaeology and geography. All of these have advanced our understanding of how the meaning and impact of water stretches well beyond its biophysical materiality. And geography, above all, has teased out the intangible and intricate web of relationships among people, places, and ideas that turns out to be central in the appropriation, dispossession, and distribution of water resources.

Karl August Wittfogel's book *Oriental despotism: A comparative study of total power* (1957) has been seminal in informing debates on the relationship between large-scale irrigation systems in arid and semi-arid regions and the consolidation of a centralised despotic political authority. While Wittfogel's environmental determinism garnered considerable criticism (Obertreis et al., 2016), the book can be praised for being theoretically insightful and for serving as a foundation that scholars have been working with and transforming his ideas during the last six decades. This has helped to disentangle the link between state formation and 'hydrosocial territories', a notion that Boelens et al. (2016: 1) deploy to define "spaces that are (re-)created through the interactions amongst human practices, water flows, hydraulic technologies, biophysical elements, socio-economic structures and cultural-political institutions". Such approach resonates with the view that nature and society are intimately interdependent and cannot be separated from one another (see Castree, 2008; and Perreault, 2014 for a critical review of the existing literature). This solidifies the view that socio-natural configurations and socio-spatial scales can be constructed and reconstructed through ideas, beliefs, and assumptions that are based on discursive, ideological, cultural, scientific, and material practices (Menga, 2017; Swyngedouw, 2010). In relation to this, scholars have been increasingly using the concept of 'waterscape' to discuss the interactions between water, power and socio-political dynamics at different geographical scales (Zinzani and Menga, 2017; Budds and Hinojosa, 2012; Loftus, 2009; Swyngedouw, 1997).

From the above viewpoint, a significant scalar tension comes to the fore when we analyse the state. On the one hand, the state as a political creation and an administrative body is inscribed in a relatively fixed territory whose external and internal boundaries are (in most cases) well defined, and so is its institutional and managerial configuration, or at least this tends to be the belief held by those who govern. The state is thus responsible for the control and use of its resources, including its freshwater. On the other hand, this rather traditional idea is being continuously challenged by alternative visions of the state, which emerges as one of the many

highly fluid spatial scales around which intricate social interactions unfold. The nominal representation of the state as a single, monolithic object, superficially conceals the intricate network of power relations and informal arrangements that underpin its functioning and everyday operation. Research has indeed shown that informal arrangements often coexist with the formal norms and rules set by the state, and water planners operate at the intersection of the two (Innes et al., 2007). As Ahlers et al. (2014) discussed in their introduction of a special issue of the journal *Water Alternatives* on informality in the urban waterscape, both formality and informality are fluid concepts, and the distribution and control of water resources depend on a dynamic set of social and material interactions which are mediated by technological development and take place at multiple scales. Formal governments can rely on informal arrangements whereby the use of land and its resources is allocated to new uses and owners, based on an arbitrary unmapping of territory, thus denoting the "territorial impossibility of governance" (Roy, 2009: 81).

Highly emotionally charged and symbolically powerful hydraulic infrastructures arguably occupy a topological space of exception in which the state is seen to operate as a unified and coherent constellation and through which it both demonstrates, performs, and consolidates its power (Agamben, 2005). If we accept that the state is a dynamic geographical construction revolving around choreographies of power that need to be constantly actualised to nurture and sustain its existence, we can also appreciate how ruling politicians can and do transform the physical space occupied by a hydraulic infrastructure into a political one "whose spatial extent cannot be demarcated in any way other than by that defined by their space of appearance" (Menga, 2017: 102). Hydraulic infrastructures thus emerge as one of the ways in which the state actualises power over its territory, and therefore, also as one of the ways in which this power can be contested. Conceptual difficulties in defining the state can be addressed by emphasising how life is permeated by social relations of stateness in ordinary, if not prosaic, ways (Painter, 2006). It seems analytically relevant to consider the state as an assemblage (Dittmer, 2014), rather than a thing in itself; as an heterogeneous grouping of actors and forces operating at the social, political, and economic level, eventually leading to the construction of a national network of interests within specific historical contexts (Swyngedouw, 2015). We shall develop this view through the ways in which this is reflected in the transformation, and manipulation of the waterscape. Waterscapes (and territories) not only coexist with the state at several scales, but the two are interdependent, and produce and reproduce each another in a mutually constitutive manner.

The state is not the only conceptually fuzzy term that we shall encounter in this volume. We are also concerned with the nation. Both often fuse together and are occasionally used interchangeably to define countries as political and administrative entities. While it is not our intention to engage in an extensive review of the literature on state- and nation-building, and the nation-state, a few crucial observations need to be made explicit. On the one hand, state-building refers to the processes through which the state, as a clearly defined administrative entity, establishes the range of social institutions necessary for its functioning, including a constitution (with a few exceptions such as the U.K.) and legal framework, a government, and other state institutions such as the army and the judiciary system, which are ultimately essential in asserting its monopoly over violence and maintaining territorial sovereignty (Weber, 1978). Lately, the term state-building has been increasingly used to refer to the efforts made by the United Nations (UN) and other international organisations to re-build the abovementioned institutions in post-conflict and transitional countries (Chesterman, 2004). On the other hand, nation-building is a widely debated notion that, in general terms, refers to the set of both top-down and bottom-up initiatives, policies, ideas, and imaginaries aimed at creating a common national identity and a sense of patriotism and loyalty toward the state (Menga, 2015). The implication with this term is that even if the nation is an immaterial entity, a social or cultural construct, which can be interpreted as an imagined political community (Anderson, 2006), this does not mean that a nation cannot be constructed or built. Furthermore, this also implies that both states and nations have to be understood as processes that can be fixed in particular moments in time, rather than as pre-existing entities (Kuus and Agnew, 2008).

If we are to link the two, and they are indeed inextricably mutually constituted, it seems appropriate to follow Giddens's (1981: 182) terminology and use the term nation-state to emphasise their enmeshment and to delineate the post-war period marked by the successes of capitalism and its "eventuating in the world-wide triumph of the nation-state as a focus of political and military organisation" with its associated monopoly on violence. In this evolutionary-transformative process, Giddens (1994) also suggested that globalisation, modernity, and the ecological crisis brought with it a new scenario marked by the waning of traditional political ideologies, whereby the influence of the nation-state is being eroded by the new global agenda and the emergence of transnational actors[1]. This resonates with studies illustrating the consolidation of a 'post-political condition', one in which the people's

capacity to deliberate and act 'politically' is being foreclosed by assumptions about the inevitability of liberal democracy, rule by expert knowledge and imposed, but unequally constituted, cosmopolitanism (Swyngedouw, 2008; Mouffe, 2005; Žižek, 2000). And yet, this same arrangement is paradoxically being challenged, in the name of democracy, by the Occupy movement and other popular protests (Wilson and Swyngedouw, 2014), while also being increasingly questioned by a new rise of nationalist and populist movements, both in the Global North and in the Global South.

As this volume will illustrate, nationalism can also be channelled into hydraulic infrastructures, reconfiguring the hydro-social cycle and power dynamics in society. In their contribution to this volume, Linton and Delay (2018) argue that "the nation-state is less a thing in itself than a network of heterogeneous actors that might be considered a relational accomplishment, something that is continually affecting socionature and changing in relation to changes in socionature". There is indeed a myriad relations connecting technology with nature and society (Obertreis et al., 2016), and technological innovation has been studied as the benchmark by which nation-states enact claims of modernisation and progress. The ideologisation of technology can also be perceived as a means through which ruling elites overcomplicate technology and practical questions in such a way that the population is depoliticised and stripped of its participatory democratic rights (Habermas, 1970). As this book shall demonstrate, such a relational accomplishment is often closely interrelated with an idea of technology and progress falling under the premises of a coveted hydrological modernisation (Kaika, 2005).

When it comes to the issue of large dams, for example, the World Commission on Dams[2] noted that "[f]rom the 1930s to the 1970s, the construction of large dams became – in the eyes of many – synonymous with development and economic progress. Viewed as symbols of modernisation and humanity's ability to harness nature, dam construction accelerated dramatically." (WCD, 2000: xxix). In this regard, Worster (1984) mobilised the Hoover Dam in the United States as an emblematic example to note that large dams have been built following the illusion that men can dominate nature. Drawing on Horkheimer's (1974) *Eclipse of Reason*, Worster argued that dominating nature also implies dominating men, since a few powerful individuals manage to concentrate significant social, economic, and political power through the construction of a dam. Work in political ecology has further underlined the complex pattern through which water (and in this case modern water supply systems) is part

of a complex network of economic powers and interest groups that erode the centralised power of the government (Gandy, 2003). Likewise, work in environmental history has illustrated how a river can acquire ontological relevance in relation to the broader processes through which technology can transform nature, and with it, society (White, 1995).

Politics of water in space and time

The above discussion foregrounds a series of interrelated questions that deserve to be addressed, and that provide the analytical outline for the chapters forming this book. With both water and the nation-state being fluid and transient entities, we need to understand what spatial scales are produced and contested by the interaction between humans and water. Significant research has been carried out in political geography (among others, Herod and Wright, 2008; Flint and Taylor, 2007; Newman and Paasi, 1998; Cox, 1998; Delaney and Leitner, 1997) and political ecology (Neumann, 2009; Brown and Purcell, 2005; Swyngedouw and Heynen, 2003; Swyngedouw, 1997; Blaikie and Brookfield, 1987), to understand the multiscalar interplay between transient natural resources and the political constructs – such as countries, institutions, and borders – that have to manage them. In this regard, seminal research by John Agnew (2010; 1994) warned about the risk of falling into the territorial trap that relates to three geographical assumptions which laid the theoretical foundation for the three mainstream ontologies in international relations theory (the realist, the neo-realist, and the liberal). The first assumption is that states are fixed units of sovereign space. The second is that the domestic is separated from the foreign, while the third is the assumption that the state existed prior to, and as a container of, society (Agnew, 1994).

For the purposes of the present volume, therefore, it is necessary to clarify further that the nation-state is understood as a heterogeneous assemblage of social groupings, political actors and economic forces, as this can facilitate our understanding of the intricate and intangible web of relationships that play a crucial role in the appropriation, dispossession and distribution of water resources. Space, territory, and society are materially, socially and politically constructed, and various scales of analysis need to be carefully considered to understand the politics of water (Norman et al., 2015; Norman et al., 2012; Harris and Alatout, 2010; Furlong, 2006; Sneddon and Fox, 2006; Harris, 2005). The nation-state scale, for instance, cannot be studied without the interstate (or international) scale and the basin-regional scale. As Harris puts it, “each of these functional scales can be understood in isolation, but can also be understood as being linked to processes, actors, and systems across

all other scales of analysis" (Harris, 2005: 267). Political constructions of scale play a role in the management and sharing of water resources, and different discourses and strategies can be constructed and adopted at different scales. As research in critical water geography has illustrated, rivers are discursively constructed as complex sociotechnical processes (Akhter, 2015), and also as unique spatial entities where geopolitical objectives unfold and are imposed on citizens, usually through top-down means (Sneddon and Fox, 2016). And yet, while this seems to imply that ruling elites are able to predate political space to foreclose political encounter in the 'high politics' of water (Menga, 2017), Norman and Bakker (2009) have convincingly demonstrated that a shift in scale downward to the subnational level does not necessarily lead to greater empowerment for local actors, and we therefore have to avoid yet another territorial trap, the local one. Issues related to rescaling transboundary water governance have thus emerged (Norman, 2014), along with increased attention to the policy challenges stemming from global water governance (Gupta et al, 2013).

As the chapters in this book will illustrate, scalar politics of water governance are being continuously challenged and reconfigured around water infrastructures, and this happens in highly conflictual settings where struggles for social power unfold and evolve over time; from imagined to existing canals, small- and large-scale irrigation projects, diverted rivers and oceans commodified through modern desalination technologies, hydrosocial territories are being constituted and reconstituted and water as a resource becomes part of processes of hydro-social transformation. The chapters (see in particular chapters 3, 4, 5 and 9) will also underline how hydraulic infrastructures can play a significant role in challenging, but also in consolidating, the centralised authority of the state and its territorialisation. While all the empirical evidence presented refers to the contemporary era, the chapters touch upon different times and focus on the use and availability of both traditional (irrigation and river diversion) and relatively modern (large-scale hydropower and desalination plants) technologies to manage and exploit water resources. Under an historical materialist perspective, this sheds light on the predatory nature of capitalism and on the processes and dynamics through which hegemonic economic and political elites seize hydraulic technologies to maintain and consolidate their grip on power over time. As Harvey observed, "[t]he capitalist operates in continuous space and time, whereas the politician operates in a territorialized space and, at least in democracies, in a temporality dictated by an electoral cycle" (Harvey, 2003: 26). If we historicise the interaction between humans and water resources, in general terms, we can argue that hydraulic infrastructures are a familiar,

reassuring and reliable (the Dujiangyan irrigation scheme in China, for instance, has already served for twenty-two centuries) way to develop societies, and this is of course unsurprising given the inextricable link between water and the creation of ancient civilisations[3]. And indeed, who could possibly argue against the usefulness and necessity of having aqueducts, mills, and sewage disposal and irrigation systems? Furthermore, we can contend that the technology behind hydraulic infrastructures (with the exception of desalination and water purification techniques), did not lead to any major breakthrough since the industrial revolution in the nineteenth century.

If we take, for instance, the case of hydropower (see in this book Chapters 7, 11 and 13), which towards the 1980s and 1990s had become internationally controversial, we can observe how the industry in the early 2000s has re-established its dominance as the main renewable energy source globally, particularly in emerging markets and less developed countries. As of 2015, 76% of all renewable electricity comes from hydropower plants, and the industry is booming (World Energy Council, 2015). Rather than being a result of technological advancement (most hydropower plants are still based on the Francis turbine, which was developed in 1849 by engineer James Francis; IHA, no date), this became possible through the incorporation of various sets of ideas (such as those related to sustainability, the water-energy nexus, scarcity, and integrated approaches to natural resources management) into the discursive frames of the hydropower sector, thus sidelining alternative readings of how to address particular societal and environmental challenges.

Linton (2010) eloquently argued in favour of seeing water as a process, something that is socio-materially produced and constantly renegotiated. This clearly resonates with Marx's central notion that "just as society produces man as man, so is society produced by him" (Marx, 1973: 37), but can also be connected to Gramsci's philosophy of praxis[4], which the Sardinian defined as "absolute 'historicism', the absolute secularisation and earthliness of thought, an absolute humanism of history" (Gramsci 1975, Q11, §27). This brings to surface the contradictions of contemporary societies, whereby men, who are seen as active processes, change themselves, other men, and the natural world, through their activities ("*per mezzo del lavoro e della tecnica*", Gramsci 1975, Q10, §54). The intellectual life cannot be disjointed from the active life and men cannot be detached from nature (Gramsci, 1975, Q10, §37). And nevertheless, these activities (and consciousness) are the result of past processes, raising questions, therefore, on how we can actually achieve radical change if the past is reproduced

in the present. The answer is, as Gramsci observed (1975, Q10, §54), that "the individual can associate himself with all the other individuals who want the same change, and if this change is rational, the individual can be multiplied for an impressive amount of times and can obtain a change which is by far more radical than what initially seemed possible". If we apply this perspective to the intricate relationship between humans and water resources, is seems indeed that the past is reverberated in the present. Water continues to be commodified and used for the benefit of the few and the reproduction of capital, and the creation of this collective consciousness that could lead to radical change in the way in which we share this natural resource is something that has yet to happen. This does not mean, however, that change is not happening or that contestations are not taking place, but this seems to be limited to isolated cases rather than leading to a paradigm shift. For instance, water privatization (or dispossession) projects have been, at times, successfully challenged and reversed (Swyngedouw, 2005), with the most recent instance being the October 2017 decision of Indonesia's Supreme Court to restore public water services in Jakarta, since private companies "failed to protect" the citizens' right to water (Human Rights Watch, 2017). And yet, the global water privatization agenda is not losing steam as the world's largest development institution, the World Bank, continues to push for privatization as a key solution to the global water crisis (The World Bank, 2016)

The above also raises a series of questions stemming from the materiality of water (see, among others, Grundy-Warr et al., 2015; Steinberg and Peters, 2015; Lavau, 2013) and its political implications. H_2O as a chemical substance has indeed a wide range of effects on society and social relations. These can be very visible and relate, for instance, to its abundance or scarcity (floods or droughts), but can also be less noticeable, at least in the short term, and yet no less significant. This is the case of contaminated or polluted water, which is used as a drinking water source by at least 2 billion people, transmitting diseases such as cholera and typhoid (WHO, 2017), and whose effects were most strikingly visible in 2017 Yemen's cholera outbreak. As Bakker (2009: 517) argued, scholars (and geographers in particular) have to walk a thin line "between incorporating materiality […] and avoiding the spectre of environmental determinism". This implies that the role of human agency should not be downplayed by deterministic considerations on the materiality of water, and yet, the role of the latter in shaping human societies should not be underestimated either. Besides its symbolic and cultural value, H_2O is essential to industry, urbanization and agriculture, and yet it is also subject to pollution and variability in its flows, and this of course provides a

challenge (and many frustrations) to policymakers that desire to control it and to water governance experts more generally (Bakker, 2012). The more-than-human is also deeply enmeshed with water and with hydraulic infrastructures, as Mitchell (2002), for instance, tellingly illustrated in the case of the proliferation of the anopheles mosquito following the construction of the Aswan High Dam in Egypt. These dimensions of water are clearly linked with the nation-state and the processes through which it is formed and contested over time. Furthermore, and as the ongoing Flint water crisis in the United States clearly illustrates (Sadler and Highsmith, 2016), water can provide an explanatory tool for economic segregation and inequalities both in the Global North and in the Global South.

Water, technology, and the nation-state

The chapters in this volume engage with the above themes, shedding light on the often intangible and intricate web of relationships linking water, technology, and the nation-state, and attempting to make sense of pressing hydro-social matters in the contemporary world. They do so through a range of both empirically grounded and theoretical critical work which covers four continents: North America, Europe, Africa and Asia. All chapters are interconnected, even though they consider different conceptual and theoretical underpinnings, and some of the chapters speak to one another explicitly, both theoretically and, more evidently, geographically. Geography is indeed the arbitrary criteria that we have adopted to organise this volume, where the chapters are therefore loosely ordered from West to East.

In Chapter 2, Joe Williams delineates the historical emergence of seawater desalination in the Colorado River, which is shared by the United States and Mexico. Williams applies an innovative theoretical perspective that brings together political ecology, assemblage theory, critical water geography, and transboundary water studies. This serves to illustrate the contradictions of capital. He argues that desalination represents a techno-political strategy and, ultimately, a technological fix to longstanding conflicts and tensions related to the governance of the Colorado River. The chapter, which sketches the historical development of the lower Colorado River Basin from the 1950s until the present time, provides an alternative reading of the challenges stemming from transboundary water governance, while also offering critical insight into the ‘next big thing’ when it comes to large scale water technologies, namely desalination.

We then move to Europe with Chapter 3, in which Santiago Gorostiza, Hug March and David Saurí examine the ascendancy and dismissal of one the most ambitious and peculiar hydraulic infrastructures recently put forward in Europe (matched perhaps only by the proposed Strait of Messina Bridge in Italy): the Rhône Water Transfer Project between the Spanish region of Catalonia, and the French region of Languedoc-Roussillon. We have indeed pointed out the conceptual fuzziness attached to the notion of nation-state, and this chapter fittingly positions this proposed canal within the broader context of surging Catalan secessionism as a challenge to Spanish political centralism. The authors illustrate how the Rhône Water Transfer Project – an infrastructure whose actual realisation has remained largely hypothetical – emerges as a discursive construction imbricated with pro-European ideas, but which incorporated over time emerging discourses such as the one on climate change.

This resonates, in part, with Chapter 4, which brings us to Southern France. In this chapter, Jamie Linton and Etienne Delay take the case study of the Vinça Dam to illustrate how the centralised French state used a dam as a means to gain territorial presence in a region, the Eastern Pyrénées, which has been historically resistant to its control. This has been possible, the authors argue, through the shift from gravity to pressurized irrigation and the consequent renegotiation of the social relations between farmers and technocrats. Starting in the 1970s, the French state used the Vinça Dam to begin producing 'modern water' and offer hydrological certainty through technology, ultimately leading to the weakening of the local social structures and the commodification of water resources in the region. As the authors observe, this corroborates recent research (Zeitoun et al., 2016) questioning dominant approaches to water security understood in terms of certainty of water flows, pointing out that more reliable water supplies do not necessarily bring benefit to farmers.

In Chapter 5, Emanuele Fantini, Tesfaye Muluneh and Hermen Smit take the case study of the Beles Sugar Development Project in Ethiopia – a large scale irrigation project funded by the state owned Ethiopian Sugar Corporation (ESC) – to discuss the interplay between state building, water management, and large-scale land acquisitions. Ethiopia enacts its objective of being a developmental state through the practice of territorialisation, which is epitomized by the transformation and restructuring of a peripheral part of the country. Through a remarkable and varied amount of data sourced from fieldwork, the authors outline a wide and complex array of dynamics that are leading to the resettlement of peoples and the redistribution of resources and labour. The Beles Sugar Development Project also emphasizes

the contradictory process through which contemporary Ethiopia tries to mediate between being both a federal republic and an authoritarian state.

Chapter 6, by Ramy Hanna and Jeremy Allouche, focuses on one of Ethiopia's historical rivals for the use of the waters of the Nile River, Egypt. The authors build on previous work carried out by Allouche (2005) to introduce the concept of 'water nationalism', which serves to narrate the overlapping processes of state building and nation making in modern Egypt. Hanna and Allouche shed light on the strategies that the Egyptian ruling elites adopted to enrol water in the top-down enactment of their hydraulic mission and how this nurtured the dissemination of a particular idea of the nation. Yet, and in line with the argument put forward by Menga (2016; 2018), the domestic dimension is intimately interrelated with the international one, and this challenges the successful formation of the Egyptian entrepreneurial state.

In Chapter 7, Bengi Akbulut, Fikret Adaman and Murat Arsel provide an insightful overview of the hydropower sector in Turkey, a country that in recent years has launched several large hydropower projects including the 'Southeastern Anatolia Project' (also known as the GAP). Yet, rather than focusing on large dams, as it is usually the case for literature on the country, the authors offer a novel reading by examining the social conflicts and the widespread opposition to smaller hydropower plants in North-eastern Anatolia during the last decade. Here, a Gramscian lens serves to position hydropower interventions within the broader setting of state-society relationships, and this illuminates the mechanisms through which the developmental state seeks consent from society.

Chapter 8 has Panayiota Pyla and Petros Phokaides exploring the recent history of water management in Cyprus, an island marked by droughts, severe water shortages and conflicts over water allocation between different stakeholders. Taking as a case study the strategy adopted by the UN in the 1960s to improve water management in the Republic of Cyprus, the authors extricate the complex interrelation between water infrastructures and internal politics, placing this in the broader setting of the geopolitical tensions between Britain, Greece and Turkey over the so-called 'Cyprus problem'. This serves to advance a critique of a series of initiatives that attempt to use water as a tool to solve the ongoing Cyprus dispute, overlooking, however, the historical complexities attached to water politics in the island.

In Chapter 9, Muna Dajani and Michael Mason focus on what is usually referred to as one the main water conflict hotspots globally, the occupied Golan Heights that Israel seized from Syria in 1967, thus asserting its monopoly of control over its water resources. The authors employ colonial theory and the concept of hydrosocial territories to provide an account of the ways in which the local Syrian population, the Jawlany, is contesting Israel's use of water technologies as a means to assert state territorialisation. The empirical evidence presented shows that the Jawlany are doing so through an ingenious counter-strategy of de-territorialisation in which water infrastructures, such as rainwater reservoirs and parallel pipelines, have been designed and used to bypass the discriminatory restrictions on the allocation of water for agricultural uses imposed by the Israeli settlers.

Chapter 10, authored by Andrea Zinzani, questions the effectiveness of development initiatives in the Talas River waterscape shared by the Central Asian counties of Kyrgyzstan and Kazakhstan. Zinzani advances the notion of the Conflicting Borderlands Hydrosocial Cycle to explore how the multiscalar complexities and the institutional restructuring that took place during the last decade have effectively hindered the work of the Chu-Talas Commission, an organisation that is generally considered as a success story for water cooperation in the region. In particular, the author illustrates how the institutional recentralisation and the shift in infrastructural property regimes in Kazakhstan played a crucial role in redefining power relations between Kyrgyzstan and Kazakhstan, which ultimately resulted in a benefit for the latter.

In Chapter 11 Austin Lord takes a close look at Nepal, an understudied South Asian country that in recent years has embarked upon an impressive number of hydropower projects. Lord adopts the notion of hydroscape to analyse the large investments in the hydropower sector that occurred after the devastating earthquakes that hit Nepal in April and May of 2015. His empirically rich study provides an account of Nepal's aspirations of becoming a hydropower nation, in what emerges as a complex and emotional rhetoric grounded on the narratives of energy security and energy sovereignty. This highly speculative development plan, however, clashes with Nepal's intense seismic activity. The author concludes on a gloomy note, reminding us that while humans might forget about nature, nature, in turn, might sooner or later crush these short-sighted hopes of national resurgence through hydropower.

In Chapter 12, David J. Blake contributes to the literature on hydrocracies and hydraulic societies through an examination of the ambitious irrigation plans recently launched in Northeast Thailand. Blake advances the concept of *irrigationalism* to underline the ideology formed by the inextricable connection between irrigation developmentalism and top-down attempts of human domination over nature and society. Such efforts, the author argues, overlap with an elite driven project aimed at propagating an idea of 'Thainess' embedded in romantic reconstructions of an idealized past, whereby irrigated agriculture becomes the activity necessary to preserve Thai culture. This process, however, happens to the detriment of more viable alternatives for Thailand's development path.

In the final chapter, Covell F. Meyskens provides a historical account of the genesis of one of the largest and most discussed dams built in recent times, the Three Gorges Dam in China. As Meyskens explains, Western imperialist pressures in the mid-nineteenth century triggered a new understanding of technology that has been appropriated by subsequent Chinese leaders in the early twentieth century. This, in turn, led to different technological styles and approaches to management, whereby Sun Yat-sen's technocratic impetus is replaced by Mao's discursive emphasis on mass mobilization and national voluntarism. Yet, Meyskens argues, such a faith on popular mobilization came at the expenses of technical expertise, with serious consequences for the first attempts to build this dam.

The above discussion, together with the insights provided by the chapters forming this book, sheds light on the interconnections and mutual ramifications between water, technology, and the nation-state, as they emerged over time and across scale and place. In light of the resurgence of the hydropower sector, the persistence of inequalities and the increasingly challenging and upsetting state of global water governance, this volume provides background and evidence aimed at addressing some pressing questions. What clearly emerges, we argue, is that this book should not be read as a book about water, or at least, not only about water. Rather, we contend that water provides an excellent lens through which some of the contradictory and often unequal dynamics that shape social interactions can be interpreted and explained. Water helps us to understand how particular spatial scales can be produced, but also how they can be contested, and this can be transferred and applied to other settings where different forces and interests are at work. The chapters are indeed linked by a common thread, and this was a deliberate choice: all of the case studies examined present, in different forms, choreographies of oppression and domination, where the interests of water users are

being obscured by broader power dynamics that are not necessarily related to water. Yet, we show that water also generates strategies of resistance and contestation, and these, even though they are often scattered, have the potential to be channelled into the creation of a collective consciousness that could lead to the radical change needed to share our resources more equally.

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[1] See Antonsich (2009) for a comprehensive analysis of the issues arising from the increasing convergence between nation and state, a phenomenon that he calls 'the crisis of the hyphen'.

[2] As a result of the growing opposition to large dams, in 1997 the World Bank launched the work of the WCD, a body tasked to review the development effectiveness of large dams, along with their social, economic, and environmental impact. This seeming new era for the hydropower sector was also marked by the establishment of the International Hydropower Association (IHA), an international organisation created under the auspices of UNESCO in 1995. In 2011, the IHA published the Hydropower Sustainability Assessment Protocol (accessible at this link: www.hydrosustainability.org/IHAHydro4Life/media/PDFs/Protocol/hydropower-sustainability-assessment-protocol_web.pdf), a document containing an elaborate complex scorecard to rate the sustainability of dam projects.

[3] For a detailed historical account of the link between water and civilisation refer to Yevjevich (1992).

[4] For an excellent theoretical discussion of Gramsci's philosophy of praxis, see Loftus (2013).