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Water marginalization at the urban fringe: environmental justice and urban political ecology across the North–South divide

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This article reconsiders the epistemic and geographic boundaries that have long separated scholarship on urban water poverty and politics in the Global North and South. We stage an encounter between the seemingly dissimilar cases of Tooleville outside of the city of Exeter in California's Central Valley and Bommanahalli outside of Bangalore, India, to illuminate the geography of water marginalization at the fringes of urban areas, and to deepen cross-fertilization between two geographic literatures: environmental justice (EJ) and urban political ecology (UPE). We argue that there is scope for transnational learning in three arenas in particular: (1) water access, (2) state practice, and (3) political agency. In so doing, we aim to advance a genuinely post-colonial approach to theory and practice in the pressing arena of urban water politics.

Keywords: urban periphery; right to water; urban informality; provincializing urbanism; transnational comparison; traveling theory

Introduction: comparison as transnational learning

In the most prosperous State of the richest nation in the globe, there are towns with Third World problems . . . Obtaining drinking water is an everyday adventure . . . (Ortiz, 2004).

The world is too big, and the intellectual complexity too great. Instead, people who specialize on the North or South will continue to do so, but should make new efforts to learn from each other, to explore common problems brought on by convergence, and perhaps to develop new theory together (Maxwell, 1998, p. 28).

Tooleville is a small community of mostly Latino farm-working families located at the eastern outskirts of the city of Exeter in California's Central Valley. Like thousands of unincorporated (not governed by a municipal corporation) communities throughout the United States, Tooleville's residents do not have access to a municipal water network. Instead, their piped supply draws on two active groundwater wells contaminated by unsafe levels of nitrates and *coliform*, the former deriving primarily from agricultural runoff and the latter likely deriving from faulty pipes and cross-contamination from septic systems. While many residents here are proud of owning their homes, they lack adequate water infrastructure and other basic services such as paved roads and a reliable sewer system. For over a decade, Tooleville's residents have sought to convince Exeter to extend

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municipal water supply to them with no success; Exeter has denied requests, and their intended areas of growth have bypassed Tooleville. Indeed, as a local journalist notes, this appears to be a piece of the Third World in the First World.

In Bommanahalli at the outskirts of Bangalore, India, the situation is, superficially speaking, strikingly similar. Peripheral subdivisions with high rates of homeownership here are mostly excluded or bypassed by the city's piped water network because, until recently, they existed beyond the city corporation's jurisdiction. The mostly lower-middle-class residents here depend on tanker trucks and unreliable groundwater wells for drinking, possess highly negotiable forms of land tenure, and, as in Tooleville, lack access to other basic infrastructure such as sewerage, storm water drains, street lights, and paved roads. For several years before their recent inclusion in the Greater Bangalore City Corporation, and even afterwards, residents and elected leaders in Bommanahalli had to fight for a say in the decisions affecting water supply to their neighborhoods. As in Tooleville, spatial and material marginalization is paralleled by certain patterns of political exclusion.

In this article, we stage an encounter between the cases of Tooleville outside of Exeter in California's Central Valley and Bommanahalli outside of Bangalore, India to illuminate the broader geography of water marginalization in fringe urban spaces and to deepen cross-fertilization between two critical geographic strands: environmental justice (EJ) and urban political ecology (UPE). While both settings exhibit vastly different political-economic histories, demographics, and governing processes, they are also remarkably similar in one key way: both are in a position of exteriority and marginality vis-à-vis a relatively larger city corporation. This means that for both areas, the extension of political rights and services by the neighboring city are ongoing arenas of conflict. The contested relationship with their city neighbors leads us to characterize them as the "urban fringe"—a term that we use to capture hybrid, transitional areas on the outskirts of cities. Rather than delineating the fringe in descriptive "rural" or "urban" terms, we use a politicized and relational bounding of the fringe to provoke new lines of inquiry on the geography of water marginalization.

Through this encounter, we seek to make two broad theoretical and practical contributions. First, we respond to scholarly questions of how to use North-South comparisons to build a more cosmopolitan sense of our rapidly urbanizing world (McFarlane, 2010; Robinson, 2002; Roy, 2009), thus moving beyond the deep-seated assumption that only "most similar" places along a hierarchy of cities should be compared (Robinson, 2006). Doing so requires "provincializing" the field of urban water politics in order to "broaden the scope for theorizing with more urban experiences in mind" (Lawhon, Ernstson, & Silver, 2014, p. 9). It requires posing Third World questions of the First World, and not simply vice versa (Roy, 2003). What can Bangalore's expanding periphery—an area representative of metropolitan change in the Global South more generally—teach us about the little-understood problem of drinking water access in the North? Conversely, what can peripheral "Third World" spaces like Tooleville in the Global North—spaces that are more widespread in the United States than typically acknowledged (see Anderson, 2008)—teach us about peripheral urban water access in the Global South? Notwithstanding the challenges inherent in conducting comparison across different historical milieus, we nonetheless contend that such comparison deepens our knowledge of the contours of drinking water inclusion and exclusion. As Debbané and Keil (2004) note in their comparison of municipal water restructuring in Canada and South Africa, despite fundamental differences between the two contexts, their "juxtaposition" enriches a global EJ discourse that is also malleable to the particularities of history, scale, and place.

Second, our comparative project contributes to literatures that seek to learn not only across the North and South, but also specifically across EJ and UPE scholarship. We define EJ as a policy and scholarly vocabulary that grew out of activist concerns around the racially unjust distribution of environmental externalities, first in the United States (e.g., Bullard, 1994; Pulido, 2000) and subsequently via a more global brand (Agyeman, 2014; McDonald, 2002; Myers, 2008; Walker & Bulkeley, 2006; Williams & Mawdsley, 2006). Under EJ research, we include both health-oriented and critical theoretical strands. We define UPE as scholarship that, while rooted in a Northern Marxist geographic tradition, draws from post-structural strands to theorize how hybrid urban “socio-natures” are shot through with uneven power relations (e.g., Gandy, 2002; Heynen, Kaika, & Swyngedouw, 2006; Swyngedouw, 1996). A second generation of UPE, moreover, not only pushes back on Marxist assumptions (see reviews by Gabriel, 2014; Lawhon et al., 2014), but also increasingly (re)theorizes “from” the Global South through a post-colonial sensibility (e.g., Gandy, 2008; Kooy & Bakker, 2008; Lawhon et al., 2014; McFarlane, 2008; Ranganathan, 2014b). While some have argued that the liberal political philosophy underpinning EJ is at odds with the Marxist roots of UPE (Swyngedouw & Heynen, 2003), we find this to be a narrow conception of both literatures, and one that is perhaps more true about their origins than their emerging trends. We thus aim to build on a repertoire of supple “traveling theory” (Robinson & Parnell, 2011) that takes UPE and EJ beyond their respective “home turfs”.

Ultimately, the motivation for our analysis stems from our own experiences in the academy and field with persistent epistemic and geographic divides: while we both saw similar symptoms of water marginalization in our respective field sites in India and California, the literatures we spoke to, academic conferences we attended, and theories we drew from were necessarily separate. Poor urban water access has largely been bracketed as a Third World problem in the social sciences. Where it has been studied at all in the Global North, it has primarily been assessed as an outcome of engineering or regulatory failure, with a small, but growing number of studies deploying an EJ framework (e.g., Balazs, Morello-Frosch, Hubbard, & Ray, 2012; Debbané & Keil, 2004; Heaney et al., 2011).

Given that the challenge of water marginalization in fringe spaces continues to be significant in scale, affecting not only half a billion people worldwide,¹ but more surprisingly millions of poorer Americans,² we adopt the spirit of what McFarlane (2010) calls “indirect learning”. Here, the goal is not simply to replicate policy lessons from one context to another, but to think *across* and *with* seemingly unlikely places in order to prompt theoretical reflection and reveal a more general set of processes. As such, comparisons between unlikely places can “enrich our understanding of cities and forms of governance in both the Global North and South, and avoids the temptation to present ‘best-practice’ models from either” (Minnery, Storey, & Setyono, 2012, p. 551).

We pursue indirect learning along three axes: (1) water access, (2) state practice, and (3) political agency. These are axes that concern social scientists, practitioners, and activists working on drinking water problems regardless of the context, but that are in urgent need of being brought under a common conceptual orbit. Building on other scholarship that strengthens exchanges between EJ and UPE on water poverty and politics (e.g., Debbané & Keil, 2004; Mehta, Allouche, Nicol, & Walnyck, 2014; Sultana & Loftus, 2012), we use each case heuristically to uncover commonalities and silences in the other. Extracting from the case of Tooleville, we argue that the *proximate dimensions of water access*, the *regulatory state*, and a *rights-based framework* provide fruitful arenas for transnational learning in the South. Similarly, borrowing from the case of

Bommanahalli, a focus on the *processes shaping access*, the *everyday state*, and a *claims-based conception of urban citizenship* promises to enrich our understanding of water marginalization in the North.

Comparative approach and areas of indirect learning

Methodologically, our approach follows Robinson's (2011) call to compare cities that are ostensibly "most different" (see also Pickvance, 1986; Tilly, 1984). Challenging scholars to revisit extant theoretical assumptions, this approach differs from the kind of comparative case design that predominates in urban studies in which cases that are "most similar" are selected *a priori* in order to control for variation and illuminate causal variables underlying particular divergent outcomes. By contrast in the approach we adopt, it is the variations found across cases that are held in an analytical relationship in order to illuminate a more general phenomenon—in our case, water marginalization at the urban fringe.

In the spirit of transnational learning, our case selection was admittedly organic and arose following our respective research projects and nearly a decade of discussions in which we grew to be familiar with each other's work and theoretical dispositions. Individually, we each drew on a combination of methods to investigate the historical and contemporary conditions of drinking water marginalization in fringe areas of India and California, including interviews, surveys, archival review, and mapping. Ranganathan's approach to studying the urban fringe in India was ethnographic and centered on the core concerns of UPE, while Balazs' used a mixed-methods environmental health and ethnographic approach to draw implications for an EJ reading of water marginalization in California.

While we did not impose a comparative logic on our cases from the start, our scheme linking access, state practice, and political agency was designed deliberately and iteratively by tacking back and forth between our empirical findings and home literatures. After settling on these three axes, we extracted and brought into tension major silences and arenas of learning from our cases as shown in Figure 1, which we develop in greater depth below, following a brief discussion of how we are defining the urban fringe. We conclude with reflections on how indirect learning across the North–South divide is not simply a political and theoretical project, but also a pedagogical one.

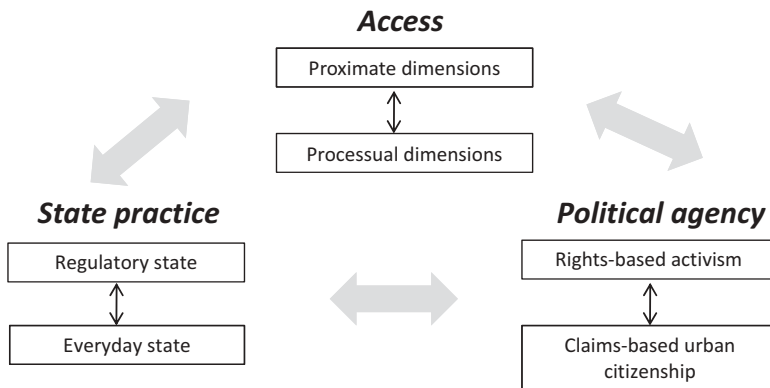


Figure 1. Areas of learning across the North–South and EJ–UPE divides.

Source: Authors.

Defining the urban fringe across the North and South

Fringe urbanization is a definitive characteristic of the global metropolitan condition. While there is broad agreement that the term “urban fringe” refers to an evolving zone of development beyond the city core, it is used to describe a wide range of socio-spatial phenomena. Recognizing this diversity,³ we bound the fringe spatially and relationally to denote areas that are (physically and politically) marginal to an incorporated city. With this definition, the power relationship between the fringe and the city is of greater significance than descriptive “rural” and “urban” or “agricultural” and “nonagricultural” characteristics.

In the last decade, racial and socioeconomic stratification within the American metropolitan fringe is increasingly being discovered (Holliday & Dwyer, 2009). Two broad types of peripheralization are visible in the United States: fringe areas incorporated within metropolitan census boundaries (e.g., Schafran & Wegmann, 2012) and economically disadvantaged rural and peri-urban unincorporated⁴ areas (e.g., Anderson, 2008; Jepson, 2014; Mukhija & Mason, 2013; Ward, 1999). We focus on the latter in this article.

Quantitative data on the number of unincorporated communities in the United States are fragmented and difficult to come by. Millions of people across the United States are estimated to live in unincorporated areas (Anderson, 2008). Estimates range from between 200 and 500 economically disadvantaged unincorporated communities in California’s San Joaquin Valley alone (Rubin, Chandler, Bernabei, & Lizardo, 2007). In the United States, an unincorporated area has no general elected body and relies on county (second-tier) governance for revenue streams and representation.⁵ County governments often have less stringent land use regulations and fewer financial resources for infrastructure in comparison with incorporated cities. In California, service provision in unincorporated communities is additionally complicated due to a fragmented and often dysfunctional array of local service providers (Rubin et al., 2007) (e.g., special districts and community service districts) with overlapping jurisdictions. Poorer, typically minority unincorporated areas must rely on a variety of underfunded community-based alternatives (e.g., mutual water companies)⁶ to provide water and wastewater systems and other basic services (e.g., law enforcement, paved roads, and flood protection). While fringe communities of varying economic and political endowments may desire annexation to a city to obtain services, they are ultimately at the mercy of municipal (Marsh, Parnell, & Joyner, 2010) and county decision-making (Anderson, 2008), as they have no annexation power.

Socioeconomic and racialized histories have led to a diverse array of unincorporated fringe communities across the United States. Nationwide, a majority of unincorporated communities are either Latino or African American (Anderson, 2008). Long histories of enforced segregation, labor sourcing patterns, and discriminatory municipal “underbounding”—a process by which a city intentionally leapfrogs annexing (incorporating) a poorer and almost always minority community in favor of a wealthier community with a higher tax base (Aiken, 1987)—led to the creation of these areas. Diverse regional geographies, multiple tiers of governance (i.e., cities, counties, and states),⁷ and local government structures have shaped the politics of annexation and uneven forms of access to services in each locale (Anderson, 2008; Marsh et al., 2010; Olmstead, 2004). Overall, it can be said that most of these communities lack adequate public investment, at least one basic service (e.g., water, sewers), and are faced with severe socioeconomic disadvantages.

Tooleville, about a mile beyond the borders of the city of Exeter in California’s San Joaquin Valley, exemplifies our definition of urban fringe in the United States. Initially settled by Oklahoman families during the Dust Bowl era, local narratives suggest that the

Tool family purchased a large tract of land just outside Exeter's borders. The Tools subsequently subdivided the land, selling small parcels to laboring Dust Bowl families. Shifts in labor demographics over time seen throughout the Central Valley were mirrored in Tooleville's demographic changes. Today, it is home primarily to low-income Latino farmworkers, while neighboring Exeter is predominantly White and once boasted a number of millionaires connected to the thriving orange industry. Tooleville's relationship with Exeter is a microcosm of the State's historic agrarian relations (Mitchell, 2012): laboring classes live in close proximity to the land, but fail to reap the economic benefits of a booming agro-industrial complex. In sum, Tooleville's status as a fringe community has equated to social, material, and political exclusions that have invoked descriptions of a "Third World" within the First.

Peripheral urbanization in the Global South, where most future population growth in the world will be absorbed (UN Habitat, 2010), is also undeniably diverse, with so-called "slums", middle-class subdivisions, and high-end enclaves alike expanding the frontiers of the city. As several studies have documented, political-economic transformations, in which neoliberal and other global imperatives have articulated with situated social, political, and cultural formations, have had a profound effect on fringe urbanization in the Global South. The dynamics of global investment, liberalization, and real estate speculation, for instance, are transforming the so-called "peri-urban interface" into a heterogeneous, conflict-ridden space, where assumed core-periphery and rural-urban relations are utterly disrupted (Arabindoo, 2009; Keivani & Mattingly, 2007; Mbiba & Huchzermeyer, 2002). Unlike the fringes of the North, however, land tenure regimes tend to be more heterogeneous, negotiable, and precarious in the Global South, due in no small part to the legacies of colonialism. A confusing array of land laws and discourses—many of them originally created to dispossess natives of land and reframe law to serve colonial pursuits (Blomley, 2004)—have today variously enabled and disciplined informal settlements. Rapid economic and demographic changes and complicit state actors have also fueled a demand for such settlement. As a result, a spectrum of insecure land tenures from the "less unauthorized" to the "more unauthorized" (Ranganathan, 2014b) and an associated array of informal modes of accessing water are the norm on their fringe.

Take the example of Bommanahalli, an erstwhile city municipal council on the southeastern outskirts of Bangalore. At six million people, the neighboring city of Bangalore is far more populous than Exeter's ten thousand. Despite this population difference, Bommanahalli nevertheless typifies our definition of the fringe. Over the last 20 years since India's liberalization, Bommanahalli has been transformed from scattered villages and farms into scores of haphazardly developed informal subdivisions (i.e., with flexible interpretation and application of land codes by state actors) catering to half a million largely lower-middle-income residents. Bommanahalli houses much of the lower-level service industry workforce that has fueled the city's status as a global outsourcing hub. Such service workers cannot afford to or cannot gain access to "authorized" planned housing officially sanctioned by the government, so settle instead in affordable, poorly equipped "unauthorized" areas (i.e., areas that have dubiously legal tenure status) near their place of work, often sanctioned by lower-level officials. This process of settlement allows for affordable access to land and an "incremental", bottom-up approach to infrastructure upgrading over time, not unlike in unincorporated areas like Tooleville (Mukhija & Monkkenon, 2006; Ward, 1999). For example, some residents without secure tenure may be able to lobby their local elected or municipal officials to sink a community borewell in their neighborhood after establishing a presence in the area and paying

property taxes for a number of years. As a result, water is often differentially accessed through an assortment of groundwater networks, privately owned wells, and tanker trucks.

Bommanahalli's particular location on the border of Bangalore, yet outside the corporation's jurisdictions until recently, helps explain this predicament. In Indian urban law, the term "corporation" is granted to cities with a population of a million people or more; smaller-sized urban units are termed municipal/town councils. As in unincorporated communities in the United States, while city corporations enjoy larger tax bases and specialized parastatal agencies with revenue-raising powers, services in municipal/town councils are provided by financially starved locally elected governments. District (second-tier) governments (equivalent to the United States county) turn a blind eye on unauthorized residential settlement in peri-urban areas, often out of a lack of coordination or for political gain. Even after Bommanahalli's incorporation into the Greater Bangalore City Corporation in 2007 and the announcement of a costly project to extend the corporation's piped water supply, most residents continue to face substandard drinking water and other amenities such as drainage and paved roads.⁸

In sum, although there are fundamental differences between Tooleville and Bommanahalli, there are also important similarities in their fringe characteristics, thus persuading us to bring them into conversation. First, while peripheral to a metropolitan center, each is a major contributor of labor power for globalizing economic sectors (agriculture in the case of California's Central Valley and technology in the case of Bangalore). Tooleville and Bommanahalli are thus physically peripheral nodes of core importance to the economies of their regions. Second, the political relationship with the neighboring city corporation continues to be contentious and formative of the identity of both areas. Their physical proximity to an incorporated city, yet position of exteriority from that city for all practical purposes, means that everyday life is saturated with anticipation and hope, as well as exasperation and despair about the prospects for improved conditions. Finally, in both contexts, drinking water marginalization manifests in strikingly similar ways at least on the surface: the largely lower-income home-owning population sources groundwater through a variety of institutional arrangements, none of which promise safety and reliability—a situation that Jepson (2014) has recently described as a "no-win waterscape" in reference to unincorporated areas in the United States. Theorized through the lenses of EJ and UPE, the various axes of access, state practice, and political agency offer provocative points of learning.

Access: proximate versus processual dimensions

Tooleville and Bommanahalli are examples of fringe spaces lacking "access" to drinking water. What does "access" entail and what can we learn from how it is conceptualized in the EJ and UPE literatures? Access is a multidimensional term with a rich theoretical lineage (Berry, 1989; Ribot & Peluso, 2003). Water access is generally conceived of through both *proximate* dimensions, such as the quality and quantity of water at the point of use, as well as in more *processual* terms implying the multiscaled and historically specific power relations that enable people to derive benefit from water.

A small, but growing number of EJ studies on water in the United States have mostly focused on the proximate dimensions of access, which is understandable at least in part given the concerns of early EJ scholarship and the longer history of public health and municipal water provision in the country. Following concerted state efforts in the early twentieth century to eliminate harmful bacteria and waterborne diseases such as typhoid in the United States, water-related mortality fell by half. These early successes set the stage

for a strong regulatory climate in the United States, in which achieving safe water quality for human health was a paramount goal of access and was achieved through regulations such as the Safe Drinking Water Act of 1976. This institutionalization of federal drinking water standards cemented a framing of water access in terms of proximate variables that are consistent with a public health approach. As a result, engineers and health practitioners dominate the field, and water access is generally viewed in terms of indicators such as infrastructure supply, quality, and quantity.

The nascent EJ scholarship on water in the United States has mirrored this framing by focusing on proximate factors and health outcomes (and the role of the regulatory state as we discuss below) rather than the broader political–economic processes that create access disparities. This is consistent with EJ’s North American origins rooted in correlations between race, class, and negative externalities (Cutter & Solecki, 1996; Morello-Frosch, 2002). For instance, in one of the first papers on social disparities related to water contamination, Calderon et al. (1993) investigate how race and class affect exposure to water contamination. Similarly, Balazs et al. (2012, 2011) show that low-income Latino communities in the San Joaquin Valley face not only disproportionate exposure to contaminants such as arsenic and nitrates, but also unequal regulatory compliance challenges.

Although such health-oriented EJ research is invaluable in demonstrating the existence of disparities and related health disparities, multiscaled political–economic analyses in both UPE and a more global/critical EJ literature can move us “from a narrow technocratic ground to rich political and ecological terrains” (Ekers & Loftus, 2008, p. 709). Such a focus shifts emphasis on the forces that “choreograph access and exclusion to water” by explicitly calling out the role of power “circulating through the socio-hydraulic landscape” (Swyngedouw, 2009, p. 59), including both hegemonic forms of domination and the more subtle capillaries of rule (Ekers & Loftus, 2008). UPE studies, for instance, have traced the structural political economy of capital and commodity flows and the class, gender, and racial/ethnic struggles that define relations of access (Bakker, 2010; Gandy, 2004; Swyngedouw, 2004), as well as the effects of colonial and post-colonial governmentalities (Gandy, 2008; Kooy & Bakker, 2008). Moreover, several studies, including on Bangalore (Ranganathan, 2014b), have traced the discursive techniques embedded in neoliberal water reforms that frame good paying customers and depoliticize the historical geography of access. Access here—implicitly defined as a processual “bundle of powers” rather than as a “bundle of rights”—is based fundamentally on the ability to benefit from things, regardless of the presence of property rights (Ribot & Peluso, 2003, p. 153).

Historical and political–economic treatments of environmental goods and bads have also been a mainstay in the critical EJ literature (Pulido, Sidawi, & Vos, 1996). More recently, such treatments also feature in the global and activist⁹ EJ literatures on the “right to water”. In fact, creative explorations of the “the right to water” concept indicate a growing convergence between EJ and UPE literatures. As Sultana and Loftus (2012) have recently argued, despite the limitations inherent in a call for the “right to water”—not least of which is the compatibility of a seemingly legalistic and individualistic concept in post-colonial contexts, as we discuss below—the notion holds potential not simply for advancing access to sufficient quantities of safe water (i.e., a “proximate” perspective), but also for enabling the right to transform the entire hydro-social cycle (i.e., a “processual” perspective). This is especially true when the concept is bolstered by critical attention to *how* water becomes accessible and for *whom* through power relations operating across scales and sites.

How can we bring this rich theoretical convergence to bear on Tooleville, where the focus has thus far been on the proximate and health dimensions of water access? While Balazs and Ray (2014) have developed a comprehensive framework to explore how built, natural, *and* sociopolitical factors operating through multilevel actors shape disparities in contaminant exposure in the Valley, there is scope for expanding such analyses further. For instance, although we know that contaminated water access in the San Joaquin Valley is correlated with race, income, and other socioeconomic variables, we know little about the “negotiated reality” (Sultana, 2011) of access which residents of the Valley face on a daily basis. Nor do we have a comprehensive understanding of how Tooleville’s hydro-social cycle is shaped by existing racial/ethnic struggles and the political economy of agro-industrialization. Such a focus could elucidate how and why certain minority groups lack access to political voice and representation, as well as the flows of labor and capital that implicate particular actors and factors in conditions of poor access.

Conversely, how can we bring Tooleville’s (and the Valley’s) experience with water disparities and health and the emerging cross-fertilizations between UPE and EJ to bear on Bommanahalli? What is perhaps most powerful in terms of indirect learning here is EJ’s preoccupation with health, still largely absent in the UPE literature. While the United States has a long history of state intervention in public health, the state in India has been all together unable to guarantee that international standards are met in drinking water quality (McKenzie & Ray, 2009). More generally, there is a paucity of critical social science attention on the connections between the politics of water access and health in the South. Although a large international water health literature addresses water quality and disease in the South (Fewtrell, Fuge, & Kay, 2005; Gadgil, 1998; Prüss, Kay, Fewtrell, & Bartram, 2002), few critical studies delve into the history, discursive constructions, and micropolitics underpinning urban water/sanitation access and human and environmental health. In brief, there is an important gap to be filled in the political ecology of urban health. An application of epidemiological research and mixed methods typical of EJ research in the North could help to fill this gap in Bommanahalli by specifying, both quantitatively and qualitatively, connections between health (e.g., contaminant burdens) and individual, community, and regional factors (e.g., tenure status). Moreover, a broader and more global EJ imaginary of the “right to (healthy) water” and “right to the hydro-social landscape” could provoke new discourses in Bommanahalli by emphasizing *both* the proximate and processual dimensions of access.

To summarize, this section has sketched some ways in which differing conceptions of water access across the North–South divide can be brought into conversation via a rapprochement between the EJ and UPE literatures. While health-oriented EJ work has focused on the proximate dimensions of water access, it has tended to be deficient in processual analyses of access. In the Global South, global EJ and UPE framings have steered toward processual definitions of access, while underemphasizing those indicators that could provide the basis for a more critical interrogation of human and environmental health. In the following section, we show that these differing emphases lead directly to how “the state” comes into view empirically and theoretically.

State practice: the regulatory state versus the everyday state

Our detailed analysis of state practices across the two cases leads us to identify two tropes. The “regulatory state”, embodied by a discrete set of environmental regulatory policies and enforcement practices, looms large in EJ literature, while the “everyday state”, an ethnographically rendered ensemble of actors deeply enmeshed in society tends to inhabit

UPE theorizations, especially those that theorize “from” the South. Our core argument is that Tooleville can learn from a more “everyday” appreciation of the state, especially its role in reproducing informal modes of water access. In other words, we explore the vocabulary of informality and its reproduction by the “everyday state” in the Global North. Similarly, we ask how the “regulatory state”—a key figure in both health-oriented and global EJ literature—could be used to understand how health risks and opportunities are mediated in the South.

The regulatory state filters deep into infrastructure and environmental policy in the United States, with regulation being deployed to manage a range of externalities from hazardous waste to water quality (e.g., Holifield, 2004; Morello-Frosch, Pastor, & Sadd, 2001), while service provision is provided by a range of public and private players and special districts. Given that the EJ movement originated in the battle against weak toxics regulations disproportionately affecting people of color (Bullard, 1994), it is not surprising that a critique of the regulatory state is a centerpiece of EJ scholarship.

This is also true of research on drinking water justice, where a primary focus in the health-oriented EJ literature has been on regulatory compliance, especially the relationship between poor water quality, violations of drinking water standards, and socioeconomic and race variables. For instance, researchers have found that in the rural south, poor, predominantly African American towns struggle to meet state and federal drinking and sewer infrastructure regulations (Heaney et al., 2011; Wilson, Heaney, Cooper, & Wilson, 2008). In a related vein, Imperial (1999), examining the distribution of Clean Water Act funds, found that higher-income communities received a larger share of grants. What all these studies have in common is their characterization—either implicit or explicit—of the state as a unitary regulatory actor. Given this narrow reading, recent appraisals of the EJ field have identified a “theoretical blind spot” in EJ scholarship as “the state apparatus itself” (Holifield, Porter, & Walker, 2009, p. 602). Kurtz (2009, p. 687) suggests that we need to understand “how the racial nature of the state might extend beyond a discrete set of policies and enforcement practices” and be formed “in *relation* to environmental injustice and the social movement which seeks to redress it” (Kurtz, 2009, p. 685, emphasis in original). Similarly, Sze and London (2008, p. 1344) argue that approaches that “view the state as more than the ‘government’ but instead as a multifaceted system that participates actively . . . in structuring relationships in society” are invaluable in “bringing the state back” (Kurtz, 2009) into EJ research.

One useful way of attending to state–society relations is to turn to “the everyday state” (Fuller & Beneii, 2000; Joseph & Nugent, 1994), a concept that is particularly crucial for the urban fringe and one that has been expanded on more recently by critical planning and UPE scholars. Much more than a collection of top-down regulations or a discrete set of state agencies, the everyday state comes into view through quotidian, messy negotiations between citizens, and the state in which the boundaries between the two are quite blurred. The everyday state is exemplified, for instance, by the lower-level “porous” (Benjamin, 2008) bureaucrat who shares cultural reciprocities with lower-income groups. In Indian cities, the everyday state appears as the frontline water engineer or local politician who provides water access in informal settlements, often in return for small bribes or votes. Importantly in these studies, informal water supply lies within public authority and state power, not outside of it (Anand, 2011; Coelho, 2005; Ranganathan, 2014a)

That the everyday state itself is complicit in facilitating access to informal water in informal areas is consistent with a broader literature on urban informality (AlSayyad & Roy, 2004; Portes, Castells, & Benton, 1989; Roy, 2005). In this literature, informality does not lie outside the state and its formal regulatory domains, but is a discretionary

mode of statecraft in which regulations are flexibly reinterpreted or suspended all together. Such readings of the everyday state's complicity in reproducing informality through a dense set of social interactions help explain why some fringe settlements have better water access than others and why many simply exist in a "gray space" (Yiftachel, 2009).

How can these insights be brought to bear on Tooleville? In general, the relationship between informality and state power is conspicuously absent in scholarship on the Global North—even if aspects of informal rule, such as selective enforcement (Cory & Rahman, 2009), regulatory discretion (Balazs & Ray, 2014), or the actions of "street level bureaucrats" (Lipsky, 1980), are empirically reported. Nonconforming practices of housing and infrastructure in the United States tend to be labeled as "illegal" or "non-compliant"—naming practices that preclude the existence of gray space. This is not to say that the state does not regulate informality in the North. On the contrary: Devlin asks, for instance, "What does it mean for planning when the organization of certain spatial practices is influenced more by ... informalized tactics and negotiation than actual plans and laws?" (Devlin, 2011, p. 64).

This is a pertinent question to be asked in unincorporated urban areas in the United States and was raised over a decade ago by Ward (1999). In his analysis of the major differences between *colonias* on either side of the Texas–Mexico border, for example, Ward (1999) argues that strict adherence to regulatory codes on the Texas side has actually impeded residents from hooking up to the network or turning to creative short-term solutions, unlike on the Mexico side where informal innovations are prevalent and alleviate water deprivation. Rather than denying households located in a floodplain water connections, he argues: "state and local government ... *should have produced compromises or other adjustments* (less stringent codes, for example)" (Ward, 1999, p. 151, emphasis added). In other words, studies on fringe communities in the North have already made a case, at least empirically, for the relationship between local state actors, residents, and the production of informality.

Recent fieldwork confirms that informalized tactics and negotiations are thriving in the San Joaquin Valley, sometimes with no apparent benefit—indeed, it bears mentioning that there is a real danger of exploitation associated with informal interventions—while *sometimes* with beneficial outcomes not otherwise possible. For example, fieldwork shows that regulators are loathe to issue formal water contamination violations if they see that a community water system is trying to improve its water quality, thus avoiding the financial and institutional penalties that that system would have to bear. This may account, in part, for the vast underreporting of violations of the Safe Drinking Water Act. In negotiating between their role as regulator—what they deem to be the "face of the bureaucracy"—and a desire to "lend a helping hand", regulators are "the everyday state" who make routine compromises with residents. Although communities do already recognize flexibility in state practices, explicit recognition could leverage additional intervention points for advocates, not to mention enhance the EJ literature. While we do not wish to romanticize informality, we argue that ideas of the everyday state and informality—increasingly deployed in UPE analyses of informal water provision—have analytical purchase in EJ research on water.

While the everyday state may have been overlooked in EJ scholarship, such scholarship has powerfully shown the import of the regulatory state for mapping the contemporary distribution of environmental risk. In Los Angeles, for instance, Pulido (2000) shows that it is not sufficient to ascribe environmental racism to intentional, malicious acts of toxic waste siting. Rather, "the state has played a central role in crafting ... opportunities, choices, and landscapes ... over the course of 150 years" (Pulido, 2000, p. 33), including

a myriad of regulatory choices. EJ literature has also revealed that racial/class disparities can both be improved and exacerbated by multilevel regulations that impact the routes of infrastructure funding in Tooleville (Balazs & Ray, 2014). The regulatory state in other words has been shown to be a deeply enabling and disabling actor.

Can the trope of the “regulatory state” and its production of environmental (in)justices lend insight into water politics at the fringes of places like Bommanahalli? We concur with Williams and Mawdsley (2006) that we must be cautious in the application of EJ concepts derived from the west to post-colonial contexts, *especially* with respect to the state. While India’s post-colonial state has undoubtedly been pluralized by lower-caste and lower-class voices since independence and has moved forward on key environmental fronts, it nevertheless continues to be dominated by elite interests. In fact, specific environmental regulatory and legislative instruments tend to be used to advance elite and middle-class interests in urban India, often to the detriment of the poor (Baviskar, 2002; Véron, 2006), much as was the case historically in the United States.

Even so, EJ notions of the regulatory state and associated elements of procedural justice, can still offer important lessons. Fieldwork in Bangalore confirms that water regulatory reforms have largely been closed off from public deliberation and have addressed economic efficiency priorities, rather than water quality or equity concerns. Here, EJ’s focus on procedural justice is an important rallying point, helping to draw attention to whether environmental policies and programs are equitably implemented and allow for meaningful participation by historically marginalized groups. In addition, EJ research has demonstrated the importance of examining the state’s role in framing and implementing safe water guidelines. As a result of water justice advocacy and environmental health research, regulations are recognized as far from static. For example, the 2006 tightening of the arsenic standard in the United States included considerable debate on the economic impacts of such a standard on small, underresourced communities. Thus, we argue that the regulatory state, in concert with social movements that advocate for procedural justice, can result in minimum water quantity and quality standards that equitably protect the public’s health. Such protective standards and opportunities for participatory democracy are badly needed in areas like Bommanahalli and may be valuable points of learning for all cities in the Global South.

This section extracted two key tropes from the EJ and UPE literatures: the “regulatory state” and the “everyday state”, respectively. This is not a sharp binary; rather, each is constitutive of the other and each is present in our two geographies. In the context of unincorporated communities in California’s Central Valley, informal interventions by the everyday state are already underway and could benefit from more explicit recognition and theorizing. Similarly, despite the complexity of the post-colonial state, places like Bommanahalli stand to gain from a more explicit discussion on the potential for regulatory interventions to frame safe drinking water guidelines. We turn now to our final arena of learning: political agency.

Political agency: rights-based activism versus claims-based citizenship

This section is concerned with the nature of political agency witnessed in our cases and gleaned from our theoretical framings. We find that, consistent with a more “proximate” reading of access and a “regulatory” reading of the state, what we are calling “rights-based activism” animates struggles surrounding water justice in Tooleville and the North more generally. In the Global South, on the other hand, a different conception of agency prevails, one that is consistent with a more “process”-oriented reading of access and an “everyday” rendering of the state—that is, “claims-based citizenship”.

At the core of both of these formulations of agency is a tension between *rights* and *claims*. These are not mutually exclusive domains; in fact, each can be used to define the other depending on the context. We define “rights” as those that *can be* codified and backed by law, both formally (i.e., theoretically) and effectively (in practice), although they are not necessarily so. “Claims”, on the other hand, are demands for certain benefits (water, shelter, etc.) made on the state, most typically in the explicit *absence* of any legally enforceable rights. Claims, however, can often be articulated *as a matter of right*—that is, symbolically—leading to much overlap between the concepts.

Unequal drinking water access in the North has typically been framed and pursued via a rights-based agenda in line with a preoccupation in the broader EJ literature with a particular western, liberal conception of justice. A prime example of rights-based activism is the Community Water Center (CWC) in the Central Valley. Cofounded by a lawyer and activist in 2006 with the motto “Because water is a human right—not a privilege”,¹⁰ CWC helps local residents in the Valley address the problem of contaminated drinking water by securing funding for, connecting to, and creating policy around safer water sources. For instance, CWC has been instrumental in lobbying Exeter to extend its water network to Tooleville’s residents, although the process has currently stalled out due to financial constraints.¹¹ CWC argues that

the language of human rights resonates with impacted community residents who do not have access to safe drinking water . . . this is sufficient evidence that the human right to water does exist, in our collective hearts and minds, if not in the halls of domestic and international courts and legislatures. (Francis & Firestone, 2011, p. 512)

This statement reveals how deeply infused political agency is with the idiom of rights. The halls of the domestic legislature did ultimately heed the call for an enforceable human right to water. Sponsored by the Safe Water Alliance of which CWC is a part, in 2012 California passed Assembly Bill 685—“The Human Right to Water in California”—establishing that it is the State’s policy to achieve universal, affordable, and sufficient water and sanitation and that all state agencies consider this policy when formulating policies and regulations. Although the legal ramifications (i.e., effective rights) for affected communities like Tooleville are currently uncertain, what is clear, not surprisingly, is that “the greatest potential legal impact will be on California’s *regulatory system*” (here we see how connected the regulatory state is with rights-based activism) in terms of making explicit the role of regulatory agencies to uphold their already-existing obligations to provide clean and safe water (Safe Water Alliance, 2012, p. 8, emphasis added).

The language of enforceable rights, on the other hand, does not typically form the basis of political agency around drinking water access at the urban fringes of the Global South, although a broader (moral–political) conception of “the right to water” does resonate with grassroots groups across the world (Sultana & Loftus, 2012), as we discuss below. One of the central projects of post-colonial scholars is to problematize liberal theoretical frameworks of (enforceable) rights by shedding light on the political claim-talk of the “subaltern” masses—groups that garnered neither effective rights nor substantive benefits through decolonization, and continue to be subordinated to the elite because of their caste, class, religion, ethnicity, gender, legal status, or other axis of difference (Chatterjee, 2004; Guha, 1988). Chatterjee (2004, p. 3) has influentially argued that many of India’s (and the world’s) poor negotiate demands on the everyday state not through the realm of civil society (i.e., “rights”), but that of political society (i.e., “claims”). This is a conception of rights “not as justiceable rights” (enforceable rights), but as “a *claim* to a

habitation and a livelihood as a *matter of right*”—that is, they are morally derived (Chatterjee, 2004, p. 40, emphasis added).

Similarly, UPE and other critical scholars have shown that marginalized groups in developing cities deploy a range of moral–political practices to claim housing, basic services, and other substantive benefits from the state (e.g., Anand, 2011; Loftus & Lumsden, 2008; Ranganathan, 2014b)—benefits that are not guaranteed legally, in part because of these citizens’ unauthorized tenurial standing. At the fringes of Bangalore, for example, residents leverage a host of citizenship practices for claiming access to water (here, claims as *a matter of right*), including forming a neighborhood association to “pressure” municipal engineers to improve water delivery, paying bribes to tanker truck drivers, and promising votes to politicians.

Could such claims-based citizenship have analytical and practical traction in Tooleville? It is here, perhaps, that the prevailing discourse of the “right to water” could be broadened to make room for citizenship “claims”. That is, it would be productive for EJ scholars and activists in Tooleville to expand the horizon of rights-talk to include strategies of claims making, and to trace, as Sultana and Loftus (2012) suggest, the micro- and macro-power relations that enable such claims to water to be realized. The act of making claims on the state through demanding greater participation in water decision-making processes is already underway in the Valley. However, a more conspicuous focus on claims-talk, as is prevalent in the literature from the South, might prove valuable. That is, regardless of their jurisdictional challenges, unincorporated marginalized communities must be able to claim safe water *as a matter of right*—not just via legalistic and regulatory procedures. The range of urban citizenship practices present in the cities of the Global South—including, crucially, political enfranchisement and “pressure” tactics—may be instructive points of indirect learning.

Similarly, could an agenda of rights, especially for marginalized groups for whom the denial of drinking water affects their fundamental right to life, have theoretical and practical purchase in Bommanahalli? Despite the fact that the United Nations General Assembly’s global right to water adopted in 2010 does not have legal recourse and depends on signatory states to take the initiative (Staddon, Appleby, & Grant, 2012), the broader moral–political connotations of this global right to water holds political valence for many groups and establishes a basis for shared understandings across the Global South (Sultana & Loftus, 2012). In Bommanahalli, for instance, the vocabulary of “water as a fundamental right of the citizen” resonates with grassroots peri-urban groups as found in interviews (Ranganathan, 2014b, p. 12), despite the fact that there is no legal recourse for contaminated or restricted water supply. Citywide discussions are erupting about what a specific human right to water would look like, especially given marginalization at the urban fringe.¹² Activists often cite the case of South Africa’s constitutional amendment, which instituted a human right to water following the end of apartheid, as a potential model. Proceeding with caution since scholars have critiqued the effects of South Africa’s model and raised doubts whether legally enforceable “rights” are possible in contexts of widespread informal land tenure (Mehta et al., 2014), there is nevertheless scope for indirect learning on what it would mean to construct both a legally enforceable and moral–political discourse claiming a right to water. This is especially urgent since, as discussed above, environmental regulations are often biased against the poor in India. Reversing this judiciary/regulatory trend through rights-based activism and discourses is imperative at the current moment.

Conclusion: a post-colonial pedagogy of the environment

For all the innovative transnational research across the North–South divide on urban shelter and homelessness, gentrification, and urban governance, the fact remains that drinking water marginalization is still very much conceived of as a “Third World” problem. It is a topic approached through a colonial mind-set and the baggage of developmentalist stereotypes. Legions of undergraduates across North America will learn the story this way. Most will remain oblivious to conditions of deprivation in their own backyards. Even most textbooks and courses on urbanization depict the urban peripheralization as a Third World phenomenon, failing to connect it to lower-income unincorporated spaces in the United States and other swaths of the North. Similarly, water policy practitioners—whether in international or national arenas—will continue to view the poverty of water access as primarily a problem of the Global South.

In this article, we sought to disrupt such one-sided narratives and perspectives and offer a more holistic analytical platform from which to work from, whether on the ground, in the policy arena, or in disciplinary circles. Applying indirect learning, we borrowed empirical examples from the seemingly unlikely cases of Tooleville in California’s Central Valley and Bommanahalli located just outside of Bangalore and equipped them with theoretical insights from EJ, UPE, and related social science literatures. We used each setting to pose provocative questions of the other. What does the everyday state look like in Tooleville? How can the regulatory state be brought to bear on Bommanahalli? What would it mean for Central Valley communities to begin to articulate political claims to water, in addition to a more formal right to water? What traction does the right to water have for the urban informals in India?

We suggest that these are not only entry points for improving understandings of water struggles in the South and the North and rethinking the ways in which scholars of UPE and EJ approach their work, but also a more critical, post-colonial pedagogy of the environment. A critical pedagogy of the environment as has been taken up by other scholars (e.g., Forsyth, 2003; Robbins, 2012) would be one that looks skeptically upon the division of the world into “First World” versus “Third World” environmental problems, spotlights the politics of knowledge production, and engages in provocative questioning and transnational learning. It would be attentive to how we come to frame particular environmental narratives—such as drinking water marginalization—as “Third World”, while other issues as “First World”. This would encourage students to recognize that urban water problems do not simply occur elsewhere.

We offered the triad of access, state practice, and political agency as a means of grasping the politics of water marginalization across geographic and epistemic boundaries. We did not aim to propose a sharp dichotomy dividing cases in the North and South, but rather a framework for bringing into conversation tensions and silences across the two cases: proximate dimensions of access, the regulatory state, and rights-based activism in the case of Tooleville; and processes underlying access, the everyday state, and claims-based citizenship in the case of Bommanahalli. We stressed the strong interconnectedness of this triad: framings of access lead us directly to particular instantiations of the state, which, in turn, produce particular practices and discourses of political agency. While this is not a static, all-encompassing framework, these are arenas that have come to dominate discussions in the respective literatures and thus afford opportunities for more explicit learning across the North–South divide. We are hopeful that the experimental approach to comparison we used here signals a “newly collaborative era of transurban scholarship” (Jacobs, 2012, p. 905) in which scholars across the North–South divide talk to and learn from each other.

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Notes

1. While one billion urban dwellers gained access to water between 1990 and 2008, this was almost exactly offset by an increase in urban population: http://www.un.org/waterforlifedecade/water_cities.shtml. Given the rapidity of urbanization, and the fact that over half of humanity is now urban, half a billion seems to be a conservative gross approximation of current global urban water deprivation.
2. While there are no exact figures for how many Americans face drinking water challenges, as a first approximation, it is safe to assume that most people who live in lower-income unincorporated communities are faced with substandard water access and quality. As Anderson's (2008, p. 3) study states: "millions of low-income families live outside central cities on pockets of unincorporated land and in economically marginal suburban or rural municipalities".
3. For a comprehensive review on the definitional complexities surrounding the urban fringe as a spatial construct, including the relevance of Southeast Asian *desa-kota* ("village-town") territorial model proposed in the early 1990s, see, for instance, Adell (1999). For a critical theoretical exploration of the urban periphery as a spatial *and* metaphorical construct, see, for instance, Simone (2007).
4. Note that there is variation within the category of unincorporated areas itself. They can take the form of a "hinterland" community located some distance from a city, as in poor settlements along the Texas–Mexico border called *colonias*; an "island" surrounded on all sides by an incorporated city; or a "contiguous area" bordered on one or more sides with a city and often in a zone marked for expansion. Rather than firm divisions, the differences among the three types are largely a factor of administrative definitions. We restrict our analysis to fringe areas just beyond the city borders in accordance with how we are using the term "urban fringe" across the North–South divide.
5. This is in contrast to an incorporated municipality that relies on two tiers of government: city and county.
6. Wealthier and/or nonminority unincorporated areas must also grapple with developing adequate basic services. However, Anderson (2008) posits that their reliance on a single tier of governance (i.e., the county) can actually be to their advantage as developers since wealthy landowners have a choice of what services to develop and/or purchase. Higher-income households can organize to purchase services from the county or municipalities in the forms of special assessment districts. Poorer, minority fringe communities, on the other hand, lack both the economic and political capital to do so.
7. For example, while neighboring cities hold municipal decision-making authority regarding annexation, in California, Local Agency Formation Commissions (i.e., LAFCOs) function as quasi-state-level decision-makers, overseeing annexation and brokering city–county relationships.
8. While incorporation was announced in 2007, it took an additional year for elections to be held, and three additional years for official maps to be released and for infrastructure to be improved in Bommanahalli and other fringe areas. As of the writing of this article (2013–2014), newspaper reports continued to lament how "old issues remain unaddressed" at the periphery—in other

words, incorporation exists largely on paper and not in practice. See: <http://www.thehindu.com/news/cities/bangalore/old-issues-remain-unaddressed/article4667646.ece>.

9. See for instance how the Environmental Justice Coalition on Water's Blueprint articulates the need for "(analyzing) the political, economic and social trends that produce the current exclusionary system" in California's water distribution: <http://www.ejcw.org/Thirsty%20for%20Justice.pdf>.
10. See <http://www.communitywatercenter.org/about.php?content=History>.
11. See <http://www.communitywatercenter.org/files/PDFs/toolevill.pdf>.
12. One of the authors was present at meeting in Bangalore in which a lawyer laid out the existing constitutional provisions for the human right to water in India.

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