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‘If no gasoline, no water’: privatizing drinking water quality in South Texas colonias

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Abstract. Our study investigates why low-income Mexican-American residents living in rural and periurban subdivisions (*colonias*) in South Texas, one of the poorest regions in the United States, are increasingly dependent upon water vending machines as the main source of drinking water despite continued water infrastructure development. We outline a relational framework that builds on current debates within nature–society scholarship to address this paradox. We demonstrate how institutional enclosure—the creation or repurposing of institutions that curtails public participation in water governance—paired with water quality discourses and daily practices, operate over time to enroll residents as neoliberal subjects. We focus our attention on the emergence of the ‘water consumer’, or the individual who purchases drinking water from the vending machine. This approach addresses the coproduction of political subjectivities in relation to institutional change and how subjectivity reconstitutes a new hydrosocial relationship mediated by the water vending machine. We argue for a relational approach that attends to the production of political subjectivities as central to, not as a result of, the neoliberalization of nature.

Keywords: socionature, water, subjectivity, enclosure, neoliberalism, Texas

1 Introduction

The South Texas waterscape is less like delivery systems in typical developed countries and more akin to the ‘archipelago’ of the Global South (Bakker, 2003). The Rio Grande is the source of ~97% of freshwater in this region; this water is allocated through complex arrangements of decentralized institutions that include quasi-public and private organizations. Fragmented water delivery reflects the contested history of water development that favored irrigation over universal domestic provision. Irrigated fields and orchards flourished for decades while adjacent landscapes of impoverished rural subdivisions (*colonias*), lacking domestic water service and sanitation, grew in their shadow (Brannstrom, 2012; Brannstrom and Neuman, 2009). By the 1980s, 20 to 25% of the colonia population, primarily Mexican Americans, lacked potable water, and one half of colonias residents relied on cesspools and poorly built septic tanks for sanitation (TDHS, 1988).

Fear of a public health crisis and political pressure forced the Texas state legislature to address the proliferation of colonias and invest almost US\$250 million in water supply and sanitation for 130 554 people in South Texas counties (TWDB, 2012, page 3; Wilson and Menzies, 1997). Despite these investments, inadequate water and sanitation continue to correlate with poverty. South Texas persists as one of the poorest regions in the US. About 37% of families with children live below the federal poverty level (FPL), and the median household income is almost half of the national median household income (ACS, 2010). Texas colonias are viewed as an enduring yet dysfunctional part of the border where the globalized economy has grafted on patterns of poverty, race, and class divisions. Colonias are quintessentially neoliberal spaces, a cheap means for the social reproduction of ‘disposable’ populations (Dolhinow, 2010). They are home to low-wage and underemployed workers in

agriculture, construction, energy, and service sectors (Donelson and Esparza, 2010; Esparza and Donelson, 2008; Jepson, 2005).

The life-world of colonias residents is characterized by chronic insecurity. Dilapidated housing and physical isolation reflect the depth of poverty that follows the Texas–Mexico border. Homes, frequently constructed with mixed materials and very old mobile homes, do not comply with standard building codes. Credit markets to finance housing exist outside formal credit schemes in the form of predatory ‘contract-for-deed’ arrangements: the buyer pays for the lot in installments while the seller retains the title, leaving the borrower vulnerable to fraud and theft (Carew and Ward, 2001).

Water and sanitation services are also insecure and highly variable across colonias communities. In some counties, such as Laredo, Webb, Nueces, and El Paso, many colonias residents lack water utilities (McDonald and Grineski, 2011). Residents truck water and store their domestic supply in 50-gallon barrels. In Hidalgo County, where we conducted this study, approximately 950 colonias communities are home to over 156 000 residents (OAG, 2012). Although community water service is available to colonias through networks serviced by quasi-public water supply corporations (WSCs)⁽¹⁾ or special utility districts (SUDs), 46% of the recognized colonias still face water and/or sanitation deficiencies (Parcher and Humberson, 2009).

While state and federal governments invested millions of dollars in water infrastructure, another water provider emerged as a new mode of domestic water delivery: the water vending machine (figure 1). Water vending machines sell municipal water that has been treated through an on-site multistep process (Gleick, 2010, page 55). Consumers pay an average of US\$0.25 per gallon of water to fill their containers, either a one-gallon milk jug (*jugita*) or, more commonly, a five-gallon plastic container (*garrafón*).

One may explain the rise of water vending by noting continued gaps in water service to the region’s poor communities. A 1998 US government study documented that some residents used contaminated irrigation water for daily household chores and hygiene because they could not afford the domestic water connection (GAO, 1998). But the purchase of water at vending machines does not provide water for daily household chores or hygiene: the water sold at vending machines is drinking water. In fact, it is common for residents with domestic water service to drive to the vending machine (*molinito*) and buy drinking water.⁽²⁾

This paper explains the rise of water vending machines, a key source of acceptable drinking water, despite increasing investments in domestic water infrastructure. We argue that the institutional enclosure—the creation or repurposing of institutions to limit public participation in water governance—paired with water quality discourses and daily practices operate over time to enroll residents as neoliberal subjects. We focus our attention on the emergence of the ‘water consumer’, the individual who *purchases* drinking water from the vending machine. In this way, we offer an approach that addresses the coproduction of political subjectivities in relation to institutional change, and how subjectivity reconstitutes a new hydro–social relationship mediated by the water vending machine.

We begin by engaging current scholarly debates on socionature and the limits of existing approaches to the study of neoliberal nature. We outline a relational framework to advance our point that scholars need to address the coconstitution of changing political subjectivities and socionatures in order to capture the full scope of how nature, resources, and people are entwined in market relations. In order to explain the rise of water vending, we first examine

⁽¹⁾A WSC is a nonprofit, quasi-private, entity created in 1933 by the State of Texas to provide water for rural residents (Texas Water Code, chapter 67; Cavanaugh, 2001).

⁽²⁾Residents refer to any water vending machine as a *molinito* (little windmill), referring to the dominant brand (Watermill) in the regional market.



Figure 1. [In color online.] Water vending machine, Hidalgo County, Texas (2011).

the role of state power. We document how enclosure, through the law and institutional form, slowly circumscribed arenas within which residents could demand access to domestic water from the state and society. We are also cognizant of how different subjectivities develop in relation to domestic water. Similar to the changes in subjectivity in environmental governance (Agrawal, 2005), agents within the water economy, including consumers, develop certain subjectivities in relation to changing institutional frameworks, water management practices, and water delivery. Therefore, we recount discourses about the quality of tap and vended water and describe the quotidian practices of buying drinking water at the vending machine. We highlight how dependence on water vending machines restructures the more mundane aspects of residents' lives as labor and costs for acceptable drinking water are shifted from the body politic to the individual. More profoundly, these daily discourses and practices in relation to the water vending machine coproduce 'drinking water', a type of water that, for colonias residents, is available only through private providers and household labor.

2 Relational nature and neoliberal subjectivity

Considerable scholarship has examined "how nature is neoliberalized" (Castree, 2008a, page 140) as evidenced by extensive case studies and reviews (Bakker, 2009; 2010; Castree, 2008b; Mansfield, 2008). New institutions, governance techniques, and technical devices have brought nonhuman processes into the fold of exchange and market relations. But up to now a majority of work has focused on one side of the neoliberal equation: the mechanisms, discourses, and politics that contribute to the neoliberalization of nature. But if neoliberalism is the creation of markets relations where none previously existed, then a critical process is the creation and enrollment of consumers into this new exchange relationship. Thus, we examine the processes of neoliberalization from a relational perspective that includes both the rise of markets and the enrollment of consumers. The question, then, for our study of

neoliberal nature is: what are the political, social, and economic processes and discourses through which the state and society coproduce consumer subjectivities in relation to the nonhuman world?

2.1 Relational natures

We describe how social power and state power produce and are also transformed by the emergent South Texas waterscape, where water vending machines have become the dominant mode of drinking water provision for the region's poor. Our attention to forms of rule, however, also requires that we address how poor communities and individuals interact with the waterscape, and in this case the water vending machine. Providing drinking water and use of the machine restructures many facets of colonias residents' everyday lives. These individual acts to secure drinking water reconstitute residents' subjectivity in relation to the waterscape and thus hold political consequences for water governance (Agrawal, 2005).

Existing empirical work on the production of socionatures demonstrates how water and waterscapes are formed historically through discursive and material practices (Linton, 2010; Swyngedouw, 2004). Ekers and Loftus (2008) have furthered this framework by drawing our attention to how subject-making through state and social power is essential to sustaining particular formations of neoliberal socionatures. Bakker (2010) offers a deeper critique—one which argues that political economic studies fail “to address the full scope of environmental processes and socio-natural entities subsumed within processes of neoliberalization” (page 717). She argues that the political economic literature avoids difficult questions presented by the coconstitution of human and nonhumans—whether objects or animals. Furthermore, a relational ontology opens for analysis how the coconstitution of human and nonhumans redefines knowledge, identities, and, thus, fundamental social–environmental relationships.

In this paper we attempt to bring these lines of analysis into conversation with each other to advance a relational ontology by addressing neoliberal subjectivity more directly. We use Ekers and Loftus's framework to examine emergent subjectivities and the production of socionatures through state power and social power. More recently, Ekers and Loftus (2013) have combined Smith's production of nature thesis ([1984] 2012) with Gramsci's philosophy of praxis to outline how the making of subjectivities and socionatures is tied *both* to structural processes of power *and* to practical human activity ('laboring subjects').

Changing rules over resources shift relations between human and nonhuman nature by limiting physical access (eg, enclosure) to a resource and designating who has a recognized (and enforced) role in governance (Robbins and Luginbuhl, 2005). Enclosure, then, is broadly conceived as multiple processes that restructure the social fabric of communities in relation to the nonhuman nature (Vasudevan et al, 2008). For the case of South Texas we call attention to 'institutional enclosure', defined as the creation or repurposing of older institutions that limit or curtail broad participation in resource governance (MacDonald, 2010; Robbins and Luginbuhl, 2005).

We also draw out how quotidian discourses and practices about nature, and in this case, water, reconstitute actors' subjectivities concerning the environment (Agrawal, 2005; Haggerty, 2007; Jepson et al, 2012). Indeed, Loftus (2012) has argued recently that everyday practice is often overlooked as a central element of environmental subjectivity. New practices and repatternings required to negotiate this new neoliberal terrain have also led to the formation of new subjectivities (Kleinman and Fitz-Henry, 2007). Documenting shifting social relations of water in South Texas colonias captures how the increasing tempo of vulnerability, slippage of state accountability, and dispossession imprint ordinary experiences. Therefore, we examine this mode of neoliberal restructuring in terms of water governance and document how it shapes discourse and practice around drinking water to

create consent (or acquiescence) in relation to increasing dependency on the water vending machine.

The entry point for a relational analysis of socionatures, then, is the practice of world-making in everyday life (Loftus, 2012). One would need to situate “practical activity both historically and geographically ... [by] attending to the relations through which it is structured” (Loftus, 2012, page 19). For our case, the production of ‘drinking water’ in Texas colonias and, in turn, the ‘water consumer’ require both institutional effort and biopolitical work (cf Meehan, 2013). As such, our study requires an approach that examines the processes of enclosure of water resources, the discourses that arise and accompany this institutional shift, and how both then influence everyday practice (or labor) in relation to the emergent waterscape.

2.2 Neoliberal subjectivities and waterscapes

In our paper we move Bakker’s (2010) call for relational understanding of neoliberalization forward by documenting how interactions between residents and the emergent waterscape ultimately coproduce a neoliberal subjectivity that further reinforces the dominance of the market in relation to drinking water. We interrogate acquiescence, rather than resistance, to forms of rule and specify more precisely how power—both state and social—operates recursively through institutions, discourses, and quotidian practices. Up to this point geographers have documented how citizen-subjects have resisted the commodification of water (Loftus, 2006; von Schnitzler, 2008). But if neoliberalism is the creation of markets in relation to resources where none previously existed, then an implicit question should address the enrollment of consumers into this new exchange relationship. Passavant (2004) notes, consumers are necessary agents in neoliberalism’s government by proxy; therefore, our focus is to examine the *processes that produce and enroll* as water consumers and understand the political implications.

Critical scholarship has advanced an idealized ‘neoliberal subject’ as a self-governing individual who exercises economic and political choices based on self-directed notions of autonomy (Bondi and Laurie, 2005). Neoliberal logics are situated in and operate through practice and contribute to the formation of new subjectivities that imply autonomy yet, in the same vein, negate responsibility of social relationships beyond the self (Bondi and Laurie, 2005; Kothari, 2005). Market principles trump or diffuse any political claims made on the state or society (Guthman, 2008; Harris, 2009). Neoliberalism’s moral economy is predicated on ‘bootstrap citizenship’ where individual (and consumer) responsibility and personal evaluation of costs and benefits replace social accountability (Feldman et al, 2011; Jubas, 2007; Mansvelt, 2007; Passavant, 2005; Povinelli, 2011, page 157).

While human–environment scholars are paying more attention to the institutional processes, discourses, and daily practices that form subjectivities (Agrawal, 2005; Haggerty, 2007; Loftus, 2012), we also need to address how emergent consumer subjectivities are also enrolled in the coproduction of socionatures. Following Linton (2010), we would expect in our case that as subjectivities change so would the constitution of ‘water’ itself. In this paper we examine how the production of a particular type of water—drinking water—and its related infrastructure in the form of water vending machines are relational to the production of the consumer. This is not new, as consumer demand for bottled and purified water has risen significantly over the past decade (Gleick, 2010). In South Texas, however, demand is not about prestige, purity, or perceived convenience: it is about living in a ‘no-win’ waterscape, where domestic water service is expensive and unreliable, and water quality is demonstratively precarious (Jepson, 2014). Moreover, in South Texas, poor residents are required to expend their own labor and effort to access acceptable drinking water—a process which continually reconstitutes their neoliberal subjectivity. This point returns to our overarching argument that studies of ‘neoliberal nature’ should not only engage modalities of neoliberalization but also

how it cascades into the production—whether directly or indirectly—of neoliberal subjects and their recursive interaction with the material world.

3 Archives, interviews, and surveys

Clear epistemological tensions arise when one examines different facets of socationature from a relational perspective. How does one construct a chain of explanation? What is the evidence for subjectivity? Loftus argues that knowledge claims can only be made through active processes; indeed, knowledge claims about the environment “must be rooted in the practices of constituting that place or city and in an understanding of those particular practices” (2009, page 162). Following his framework, our approach is to historically situate key institutions to address everyday practices of drinking water access. In our case law remains the key mechanism through which the state and elites exercise power over water in Texas. Jepson consulted documents from the Mexican American Legal Defense and Education Fund (MALDEF) archives in Stanford University Libraries (Special Collections) and US Circuit Court records. Our attention to the law provides critical information to examine the question of water governance enclosure. Yet our concern is also with practice. For this, we employed qualitative methods, field observation, and interviews with colonias residents and water managers about drinking water access, quality, and practices.

The qualitative research that forms the basis of our analysis was conducted as part of a larger project on household water security, broadly defined as affordable, accessible, and safe water for a healthy life (Jepson, 2013), although Jepson (2005) has visited, worked, and volunteered in colonias and farmworker communities in south Texas since 1992. The research team conducted two group interviews and thirty-eight semistructured household interviews in ten neighborhoods, purposefully selected in consultation with community-based health workers (*promotoras*) in the Texas A&M University Colonias Program, in the eastern portion of Hidalgo County during several visits between January 2009 and August 2011. Interviews, in Spanish and English, were conducted by a researcher accompanied by a promotora who acted as a local contact for research participants. The team also interviewed water suppliers, water corporation employees, and attorneys involved in water cases ($N = 9$)

Table 1. Household demographics ($N = 71$).

	Colonia type				All households
	green	yellow	red	unknown	
<i>Household demographics</i>					
Number	8	19	15	29	71
Adults	3	2.36	2.06	2.48	172
Children	3.12	1.84	0.8	2.58	147
Over 65	0.12	0.37	0.6	0.03	18
Household members	6.25	4.58	3.46	5.13	338
<i>Household income</i>					
Cash income (US\$)	972	1 882	1 276	1 041	1 291
Assistance (US\$)	197	117	105	276	197
Total (US\$)	1 168	1 895	1 381	1 307	1 458
FPL (%)	40.53	97.5 ^a	70	48.8	64.5
<i>Water cost per month</i>					
Water expenditure (US\$)	77	59	55	67	63
Affordability (%)	9.1	5.8 ^a	7.0	8.3	7

^a $N = 69$ as three respondents did not indicate income.

to explain the institutional context for water delivery and to elicit views on the provision of water to colonias communities.

We also drew from the qualitative research to inform the development and implementation of a survey ($N = 71$; July–August 2012). We selected colonias based on a stratified random sample of a colonias typology used by the state to classify health risk (Parcher and Humberson, 2009). The final selection of communities and households, however, depended upon the first author's judgments related to the research team's personal safety and the responsiveness of community members. Most surveyed households are below the federal poverty level, with an average monthly income of US\$1291, and they expend an average of 7% of their monthly income on water (table 1). The survey found that, while all households are connected to water service, only 45% are in the range 'water secure' while the majority (55%) is 'water insecure' (Jepson, 2014).

4 Institutional enclosure of domestic water

Institutional enclosure—the creation of or repurposing of older institutions to curtail public participation in governance—involves changes to scope and procedures related to resource distribution, rights allocation, and decision making. As these forms of rule are intimately linked to state power, these changes often require legislative and legal intervention (Robbins and Luginbuhl, 2005, page 51). As Vasudevan et al argue "(l)egal sanctions ... remain one of the key instruments through which enclosures have been legitimised" (2008, page 1643). Another mechanism to 'enclose' institutions is to leverage notions of efficiency and productivity in order to reposition or narrow the scope of resource institutions. This 'functional specialization' effectively restricts the scope of legitimate actors allowed to make decisions, fragmenting powers and accountability (Foster, 1999; Mullins, 2009) and depoliticizes activities by 'rendering technical' management decisions (Li, 2007; 2008). Functional specialization is particularly evident in the US water sector, where the rise of 'shadow governments' in urban water delivery "is outside public view and without direct electoral accountability" (Mullins, 2009, page 43). This section examines how elites leveraged state power to limit collective participation in water governance, which effectively reduced the capacity of colonias communities to make political claims for domestic water.

4.1 "We tried to commit the act of regicide and failed"

The first move to restrict political participation in water governance occurred in the early 1970s when the state and regional elites changed the law to exclude ('de-annex') colonias land from Water Control and Improvement Districts (WCIDs) (Jepson, 2012). In the early 20th century the Anglo farming elites organized WCIDs to convey water from the Rio Grande to their citrus and vegetable fields.⁽³⁾ In the same way that the elites historically manipulated local politics along ethnic lines, they also controlled water through this institution (Brannstrom, 2012). Chicano-led colonias organizations and advocates began to campaign for treated water service and looked to the WCID as the political mechanism to attain domestic water service for their communities.⁽⁴⁾ WCIDs explicitly stated concern over the potential impact of colonias residents' voting behavior. (MALDEF, 1973a, pages 10–11). To counter this takeover, the WCIDs initiated a process to undermine legitimate political participation of poor Mexican-American communities in water governance. They advocated a new law allowing the WCID board to unilaterally de-annex unplatted 'urban land' (colonias) from district territory. After a three-year legal battle, the Court ruled in favor of the WCID and

⁽³⁾The term 'Anglo' refers to non-Hispanic, English-speaking, White Americans of European descent.

⁽⁴⁾The term 'Chicano' was coined during the 'Brown Power' movement of the 1960s and early 1970s and refers to politically engaged Mexican Americans who participated in civil and political rights activism.

determined that the exclusion of colonias from the district was legal.⁽⁵⁾ When asked about the long-term consequences of the ruling, the colonias residents' civil rights lawyer remarked:

"I thought they [legal cases] had a grossly negative impact in retrospect because what we did, basically, *we tried to commit the act of regicide and failed*, and everybody has consequences for failing in the act of regicide" (personal communication, July 2011, emphasis added).

From the perspective of colonia residents, the ruling consolidated the state-sanctioned elite power over water.

A second, less obvious, negative consequence was that the WCIDs successfully advanced notions of market efficiency to justify the exclusion of colonias from water governance (Jepson and Brannstrom, 2013). Agricultural elites argued that this political move to supply domestic water would "threaten to throw the district into default" (MALDEF, 1973a, pages 10–11; see also 1972, pages 9–10). The WCIDs argued that WSCs were better equipped in the market to provide potable drinking water to colonias:

"for sound reasons of good business, economy, and public policy [the WCID] declined to enter the field of water and sewerage treatment in competition with agencies already engaged in such business" (MALDEF, 1973a, page 10).

The WCID further argued that it would be detrimental to the colonias residents to stay in the district, because it would "deny the opportunity to pursue more promising avenues for procurement of a potable water supply through cities, authorities, water supply corporations, or other agencies already active in the water and sewage treatment field" (MALDEF, 1973c, page 2). Their position was clear: excluded colonias had other market-based options for water service, primarily WSCs (MALDEF, 1973a, page 24). The argument gained traction with the judges, as one stated:

"there are water supply corporations now existing which can reach many of the properties It is as if [the] Plaintiffs are not without better alternatives of than the using of their votes to influence a political subdivision" (Opinion of the District Court, 1973, page 45a).

The legal case not only locked residents out of exercising political rights over water distribution, but the ruling also designated the WSC as the key institution to distribute domestic water to rural communities.

4.2 Water supply corporations

A decade after the court ruling, a majority of colonias communities remained without water or sanitation while new unregulated and underserved neighborhoods expanded (TDHS, 1988). In response to abject living and public health conditions, advocates for colonias residents reengaged the politics of water. They lobbied for grants and loans to fund water and sanitation infrastructure and demanded better land-development regulation to prevent further expansion of underserved rural subdivisions (Ward, 1999; Wilson and Menzies, 1997). State agencies responsible for administering loans funneled resources to existing water institutions, primarily WSCs.

WSC governance exemplifies the shadow government described by Mullins (2009). WSCs are institutions that the state considers technical, or specialized, and outside the normal political process:

"Texas law does not treat water corporations as a matter of municipal politics . . . by the *very nearly apolitical status* of the water corporations in Texas" (*The City of Combes v. East Rio Honda Water Supply Incorporation* 2002, page 244, fn2, emphasis added).

⁽⁵⁾ *Guadalupe Jimenez et al. v. Hidalgo Water Control and Improvement District #2 et al.* (1974); *Juan Fonseca et al., v. Hidalgo Water Control and Improvement District #2 et al.* (1974).

This ‘apolitical’ status directs water governance procedures. In Texas, WSCs are not obliged to follow the Voting Rights Act⁽⁶⁾ and thus they are not required to translate board election material even though the communities served by the corporations primarily speak Spanish. Furthermore, only ratepayers (not the general public) can elect the board that governs corporation policy and hires the water manager. Proxy votes have been very prevalent, leading to entrenched board membership. One WSC employee explained,

“Water Supply Corporations are run using those proxies [votes] They don’t run like a regular [political] election” (interview, WSC employee 1, 14 July 2011).

The WSC also internalizes a private sector ethos or business model that requires certain cost-recovery management practices (Shirley, 1999; Smith, 2004). By design WSCs must operate under conditions of full-cost recovery through pricing. The State of Texas does not require WSCs to provide a universal water service and only allows them to raise funds through bonds or loans. Although colonias were adjacent to or within WSC service areas, the WSCs had no incentive to expand service to communities that have far less capacity to pay than other urban areas, leaving thousands without water. Government loans to expand service to poor communities were never sufficient. Subsequent legislation to encourage WSCs to reach unconnected colonias was tied to ‘bootstrap self-help’ financing, underscoring that even the corporate model required considerable involvement of community labor and the nongovernmental sector (Dolhinow, 2010; Donelson, 2004; Henneberger et al, 2010; Lemos et al, 2002).

The institutional history of one corporation illustrates how WSCs had little room to operate outside market-oriented practices. The WSC Agua Clara⁽⁷⁾ began as a progressive institution that was dedicated to improving domestic water provision to colonias residents. The Catholic Church’s social services agency joined a community organizer and farmworker to subsidize the initiation of Agua Clara in the late 1960s. Despite progressive ideas about water for all, the institutional form of the WSC directed the board’s choices into a market-oriented framework. A long-standing WSC employee explained how progressive-minded water providers had no choice but to incorporate market-based managerial ideas:

“[O]f course the concept of that first Board was that all poor people should get everything for free or for the least amount of money . . . that they are entitled to the federal government providing them the monies they need to provide services The second stage was what I call the financial stage . . . the financial stability—of the corporation came into play where the Board said, ‘*We’re going to make this a business.*’ . . . We cannot depend on the federal government any more” (interview, WSC employee 1, 14 July 2011, emphasis added).

Specialization of water supply, voting procedures, and the corporatization of water service further curtailed Mexican-American participation in regional water governance. The history of resistance—through the courts, legislature, and even establishment of their own WSC—demonstrates that colonias residents and their advocates actively sought water service where they could. Water governance experienced a slow process of institutional enclosure. The cumulative impact narrowed the arena in which colonias residents could make claims on the state and, therefore, they turned to the market.

5 “Si no hay gas, no hay agua”

Water vending businesses opened operations South Texas in order to fill the well-publicized need for clean drinking water in rural areas while taking advantage of the time gap between the passage of legislation and water system implementation. In fact, two major water

⁽⁶⁾ *The City of Combes v. East Rio Honda Water Supply Corporation* (No. B-02-169, 244 F. 2d [2002]).

⁽⁷⁾ Pseudonym.

vendors even moved their headquarters to South Texas to be closer to their key market. In this section we examine how water vending machines became a key source of drinking water for colonias households. Attention to practice allows us to identify “the ways in which neoliberal governmentalities become reinscribed, processes that have only been alluded to in previous studies” (Guthman, 2008, page 1245). We argue that this normalization process through institutional enclosure and everyday practices shifts the responsibility to provide clean drinking water from the state to the individual. Indeed, the rise of vended water (*agua de garrafón*) as the source of ‘drinking water’ has effectively privatized water quality because there is no other means to acquire acceptable drinking water in the public or even quasi-public water sector.

5.1 Formal discourses, practices, and differentiated waters

The ubiquity of water vending machines in the South Texas landscape reifies suspicions that there are unhealthy shortcomings in the tap water. Advertising campaigns subtly promote the idea that drinking water should come from water vending machines, while tap water (*agua de la llave*) has ‘other’ water uses. Marketing campaigns for vended water leverage the difference between *agua de la llave* and *agua de garrafón*, playing off the history of public uncertainties about domestic water quality and access. A WSC employee believed that the media, not the water quality, was one of the factors causing people to buy water from the vending machine instead of drinking water from the tap (interview, WSC employee 2, 18 July 2011). He described a radio commercial in which two women discussed the impurities they had seen in the tap water, leading them to purchase vended water. It is not simply the media, however. One colonias resident informed us that she scolded her children for drinking the tap water because the doctor told her it made them sick:

“The kids don’t drink [water] from the tap and if they are going to I hit them. It’s because one of them got sick ... [The doctor] said “Look here, many [sick people] have come here and what is harming you all is the water you drink. Try to go get water bottles” (interview participant 2, 16 June 2010).

From a public standpoint, vended water and tap water are further differentiated by the regulatory systems that govern them. Among WSC (tap water) employees, the regulations governing vended water were unknown. One employee responded:

“I haven’t wanted to find out. The less information you have, the less questions you have to answer. What they do with the water, how they treat it, how much they charge, that’s up to them ... They claim that they do tests. They claim that the Health Department monitors them. We really don’t know (interview, WSC employee 1, 14 July 2011).

A later conversation with a vended water employee confirmed that tap water and vended water are subject to two different regulatory structures. While the Environmental Protection Agency (EPA) regulates tap water quality, the US federal government does *not* regulate point-of-purchase water vending machines. In Texas, water vending machine operators are only required to license their maintenance workers and to self-report microbiological tests for each unit every 90 days. Tap water providers, on the other hand, are subject to federal standards and must publish a detailed public report of their water quality annually. Thus we see even in the regulatory framework, tap water and vended water are separate entities.

WSC employees do not directly challenge the differentiation of water because they do not believe that water vending machines pose a threat to their own business. First, the water vending companies purchase water from the WSC, using corporate contracts that are more profitable for the WSC than are domestic contracts. Profits are further increased by the amount of water the water vending companies use, which an employee claimed was two gallons of tap water for every one gallon of vended water produced. Second, as one WSC employee explained, the volume of drinking water in domestic households constitutes such a small

percentage of their total sales that investing in advertising to counter the claims of impure water would not be cost effective. Consequently, both tap water and vended water distributors normalize drinking water and tap water as mutually exclusive, which is reinforced by current regulatory structures. The result is the uncontested sprawl of *molinitos* throughout the South Texas waterscape. As one employee of the water supply corporation explained:

“Every place in this Rio Grande Valley, everybody uses the machines. Everybody down here buys [purified water]” (interview, WSC employee 3, 21 July 2011).

5.2 Everyday discourses and practices of water quality privatization

Colonias residents reiterated the separation of tap water and drinking water, as their descriptions of water quality were often punctuated with frequent complaints about their experiences of *agua de la llave*. The majority (73%) of households surveyed described some negative experience or concern over *agua de la llave*. Many residents stated that *agua de la llave* typically ran clear, although it often smelled like chlorine or sewage and had a taste that they found undesirable. Residents stated that the water tasted like dirt or chlorine. They also used a range of words to describe things they saw in their water: dirt, trash, earth, worms, trees, and *diablitos* (little devils). Several participants also reported that the tap water sometimes appeared cloudy or brown. Overall, most residents found the qualities of the tap water undesirable—confirming to them that *agua de la llave* was ‘unsafe’ for drinking. Residents also shared experiences with one another and reported chastising their friends and family members if they consumed *agua de la llave*, for fear they might get sick. A few residents associated illnesses with tap water consumption:

“My sister ... drinks it and she gets all of her water from the tap and so we scold her They drank from the tap since the kids were little and the water would get into her breast milk, truly” (interview, participant 1, 21 June 2010).

Colonias residents also work for drinking water because buying *agua de garrafón* requires more than simply turning on the tap. Frequent trips to the water vending machine were difficult for households with limited transportation options. While a few participants reported walking to the machine to purchase water when they did not have a car, others chose to forego drinking water altogether until they could drive to the vending machine. If families had an available car, they might not have sufficient money to buy gas to drive it to the vending machine. In fact, one in four households surveyed had not had sufficient gas money to pay for trips to the water vending machine at least once during the previous twelve months. As one woman stated:

“Si no hay gas, no hay agua” (if there is no gas, there is no water) (group interview, 4 November 2010).

A few residents expressed concern over personal safety while they bought water at the vending machine. Many of the water vending machines stand alone in a parking lot or on a street corner. Some residents reported that illicit activities occurred at the machines at night, and therefore they were afraid to go to the machines after dark. These reports were corroborated by water vending employees, who reported several break-ins at standalone machines. Although this was not common, it speaks to the extra effort required to access what residents consider ‘drinkable’ water.

Carrying water is a physical burden for some. Each *garrafón* weighs approximately 42 pounds (18.93 kg). One woman described a common reality for older residents:

“It’s difficult to use [the machines] I put my car really close and I fill all the *garrafones* And I look for a man, a big man, and I say to him ‘can you move this, boy? You’re young, right?’ The smaller 3-gallon ones I can lift. No problem. The big ones, yes, they are heavier I’ve never had to carry them, thank God. Sometimes I only pour the small ones” (interview, participant 4, 23 February 2011).

Most striking is her description of the labor involved during a typical transaction at the molinito: to use them (*servirlos*), to fill (*llenar*), to look for assistance (*ver*), to lift (*levantar*), to carry (*llevar*), and to pour (*echar*). In other cases, many respondents, primarily women, reported that frequent trips to the machine were more challenging than carrying the bottle. Buying vended water is more than simply the exchange of cash for water. Residents must pay for drinking water with their labor.

Water vendors and government regulations expect residents to maintain and store their bottles properly, while the vendors are responsible for sterilizing water at the dispensing point. Instructions on each vending machine stipulate that consumers need to disinfect their bottles prior to refill. Most residents interviewed said that they cleaned their bottles before each refill, but few disinfected the bottles with bleach before reuse. In fact, one water vendor suggested during an interview that we, the university researchers, should develop drinking water education materials that would better explain the processes of cleaning and storing vended water.

Water costs and concern over water quality direct household water management practices, including strategies to reduce household water management expenditures, fetch drinking water, and disinfect drinking water containers. Survey data confirm that water is not affordable—defined by the United States Environmental Protection Agency as water expenditure being over 2% of monthly income. On average, colonia residents surveyed spent over 7% of their cash income on water, including tap and vended water. Some households (15.5%) conserved water to save money. For example, one informant stopped watering her plants to reduce costs of water and reduced the frequency of laundry. Even a water vending company employee recognized the economic constraints:

“People can’t afford that [vended water] And I think about that once in a while when you get people coming in once in a while and they say, ‘I can’t make my monthly bill this month.’ . . . Or if they have their water closed [shut off] because they couldn’t pay their water bill. I tend to wonder, are they still going to those places [water vending machines] and are they still buying water to drink. I hope they’re not (interview, WSC employee 2, 18 July 2011).

A coalition of consent developed around individual responsibility for acceptable drinking water. For residents, labor practice—getting water from the machine, maintaining bottles, and managing the household water economy—have normalized a sense of individual responsibility among colonias residents, reinforcing the household as the primary water management institution (Harriden, 2012). WSCs also reinforce individual responsibility for water:

“We provide water up to your meter. What you put inside your house and how you use the water inside your house, well we have no control . . . whether they [colonias residents] only want to have only one faucet outside their house and carry the water inside is their business (interview, WSC employee 1, 14 July 2011).

Water vending employees confirm this sentiment, stating the residents are individually responsible for keeping the caps on the bottles, cleaning and disinfecting the containers, and storing them in places to avoid excessive heat and sun exposure. The moral economy of water is repeated among residents: when asked who was responsible for providing clean water, one woman simply declared “I am responsible” (interview participant 4, 24 February 2011). When asked about the role of the government or the WSC, she concluded that the WSCs were perhaps responsible but that she did not have confidence in their ability to provide good drinking water. A similar perception was mirrored in a conversation with another resident, who replied that the man servicing the water vending machine, not the government, was responsible (participant 5, 25 February 2011).

The social production of *agua de garrafón* versus *agua de la llave* allows us to address the paradox: there is increasing use of water vending machines during a period of expanding water infrastructure to colonias. We argue that, while the water service expanded, the availability of acceptable drinking water remained a challenge. The rise of water vending machines represents a form of privatization—water *quality* privatization. Water quality privatization can be understood as the shift of access, labor, and responsibility for acceptable drinking water from a relational axis between the citizen and state to one between the individual and the market. In this case, water quality (as defined by the consumer) is privatized through the intervention of the vending machine at a time when residents have limited ability to resolve water quality conditions through existing water governance institutions. Water from the vending machine is an ‘environmental fix’ (Castree, 2008a) to the politics that have contributed to unacceptable tap water and the poor political accountability inherent to the market-based model of water provision. The water vending company, which is virtually unregulated by the state, effectively extracts capital and labor from the consumer to fill gaps in the existing water system.

6 Conclusion

Our analysis of the connections and tensions between water infrastructure and the intimate practices of home deepen our analysis of how different types of power operate, how contradictions open up, and how subjectivities are made (Ekers and Loftus, 2008, page 713). In this case we have demonstrated the formation of the ‘water consumer’, and how that consumer was further realized in relation to the socially differentiated properties of *agua de la llave* and *agua de garrafón*. In each case, political subjectivities, labor, technology, and long-standing unequal social relations differentiated the very socionature of water (Linton, 2010, page 34). In this paper we have addressed the coproduction of political subjectivities in relation to institutional change and how the subjectivity reconstitutes a new hydrosocial relationship mediated by the water vending machine.

We have advanced a relational ontology to guide our analysis of the processes and modalities that produce socionature within a critical realist perspective by examining how human subjectivities and social power direct the production of socionature. We have described how local elites exercised hegemony through control of the law—the most objective form of state power—to significantly restrict the political space in which colonias residents could demand domestic water service. Legal exclusion from water governance districts and specializing governance institutions for domestic water service further defined access to domestic water in market terms. And despite subsequent political mobilization, the provision and governance of water service remained outside the purview of political activism. The WSCs increased their service area without fundamentally changing their accountability to the colonias residents. The axis of power between the citizenry and state was weakened while the relationship between the individual and the market was strengthened. In this process, accountability for and access to drinking water gradually slipped from the body politic to individuals.

We have also advanced a theoretical position that describes how forms of rule shape political subjectivity, and we have examined how the emergent subjectivities coconstitute socionature itself. Our relational approach also requires that we describe how the individualizing ethos reconfigures social power in terms of the consumer-citizen. In South Texas the consumer is made manifest through everyday interaction with the waterscape—particularly the water vending machine. Many colonias communities in Hidalgo County were able to turn on the tap but remained concerned about the quality of the water because of personal experiences and discourses of dirty water. Rather than demand cleaner tap water from existing institutions or the state, residents turned to the market for what they

consider acceptable drinking water. Residents willingly expended their limited resources and their own labor to ensure that their families had acceptable drinking water; but this act only reinforced market signals and individual responsibility for acceptably clean water. Our description of how colonias residents attend to the lived realities of domestic water access aligns with ‘quotidian practices of compromise’—the everyday actions that operate between dispossession and protection (Li, 2010). Poor residents expend their own labor to buy acceptable drinking water, a process that reconstitutes their neoliberal subjectivity while reinforcing the market signals for water vending machines. Tap water may be bought from the WSC, as long as one did not miss a payment. But drinking water, with the properties that fulfilled social and individual expectations of cleanliness and healthfulness, is accessed through different social relations. Agua de garrafón became a private good only available through individualizing labor practices, making the cost of conveying water the responsibility of the household.

Attention to the relationship between institutional enclosure and quotidian practices allows us to specify how neoliberal modalities operate at various spatial and temporal scales and contribute to the normalization of water vending in Texas’s colonias. Our focus on the enrollment of consumers and their practices underscores the subtle political and institutional processes that naturalize accumulation strategies of private corporations. This dynamic process of institutional enclosure and quotidian practices of buying water at the vending machine coproduces not only the ‘water consumer’, but also water itself, thereby deepening efforts to extract more profits from the homes of America’s poorest community by privatizing water quality.

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