*Wir empfehlen Ihnen, auf einem Blatt jeweils zwei Seiten dieses Artikels nebeneinander auszudrucken.*

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# Shaping the Modern Body: Water Infrastructure in Los Angeles (1870–1920)*

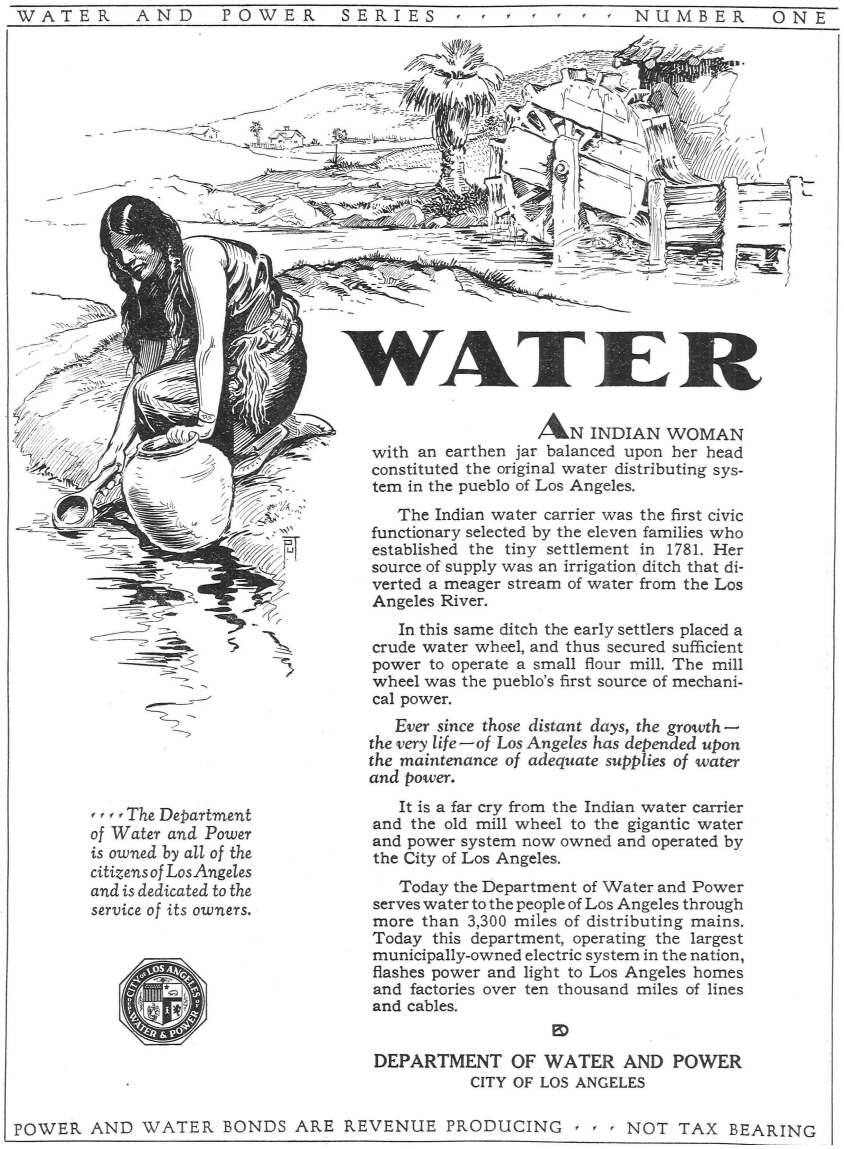
Jan Hansen

*English abstract: This article examines the appropriation of new water technologies in Los Angeles between 1870 and 1920. In particular, it explores how social reformers aimed to establish sanitary conduct. Adjusting consumers to tap water and toilet facilities instead of public wells and surface sewers was a contingent process. It required both the disciplining of everyday life routines and the habitualization of bodily practices by consumers. In circa 1900 Los Angeles, this process connected to the biopolitical formation of the city population. By excluding Mexican and Chinese Americans from water infrastructure, the white majority produced the "modern city" on the model of the "modern body," both imagined in racial, classed, and gendered categories.*

> "An Indian woman with an earthen jar balanced upon her head constituted the original water distributing system in the pueblo of Los Angeles. […] Her source of supply was an irrigation ditch that diverted a meager stream of water from the Los Angeles River. In this same ditch[,] the early settlers placed a crude water wheel, and thus secured sufficient power to operate a small flour mill. The mill wheel was the pueblo's first source of mechanical power. *Ever since those distant days, the growth—the very life—of Los Angeles has depended upon the maintenance of adequate supplies of water and power.* It is a far cry from the Indian water carrier and the old mill wheel to the gigantic water and power system now owned and operated by the City of Los Angeles."[1]

* I would like to thank the two anonymous reviewers and the editors of this issue for their suggestions. I am also grateful to Nicola Tynan (Dickinson College) who commented on my paper at the 2017 Social Science History Conference in Montreal.

1 Los Angeles Department of Water and Power (henceforth LADWP) Records Center, WP05-44 (2): Department of Water and Power, "Los Angeles Municipal Water and Power Advertisements," April 1929 (italicization in original).



WATER AND POWER SERIES · · · · · · · NUMBER ONE

# WATER

AN INDIAN WOMAN with an earthen jar balanced upon her head constituted the original water distributing system in the pueblo of Los Angeles.

The Indian water carrier was the first civic functionary selected by the eleven families who established the tiny settlement in 1781. Her source of supply was an irrigation ditch that diverted a meager stream of water from the Los Angeles River.

In this same ditch the early settlers placed a crude water wheel, and thus secured sufficient power to operate a small flour mill. The mill wheel was the pueblo's first source of mechanical power.

*Ever since those distant days, the growth—the very life—of Los Angeles has depended upon the maintenance of adequate supplies of water and power.*

It is a far cry from the Indian water carrier and the old mill wheel to the gigantic water and power system now owned and operated by the City of Los Angeles.

Today the Department of Water and Power serves water to the people of Los Angeles through more than 3,300 miles of distributing mains. Today this department, operating the largest municipally-owned electric system in the nation, flashes power and light to Los Angeles homes and factories over ten thousand miles of lines and cables.

*· · · · The Department of Water and Power is owned by all of the citizens of Los Angeles and is dedicated to the service of its owners.*

DEPARTMENT OF WATER AND POWER
CITY OF LOS ANGELES

POWER AND WATER BONDS ARE REVENUE PRODUCING · · · NOT TAX BEARING

Figure 1: "An Indian woman with an earthen jar…" (1929). See footnote 1. Courtesy of the Los Angeles Department of Water and Power.

Thus began the narrative of an advertisement published by the city-owned Department of Water and Power in 1929. An illustration shows a young Native American woman sitting on the waterfront of a small runlet. The viewer sees her scooping water into a pitcher. In the background, a wooden water wheel is nestled in an idyllic landscape. Clearly, both the text and the illustration deal with temporal, spatial, and human dichotomies: ancient stagnation and contemporary growth, the rural past and urbanized modernity, and Native Americans and Americans of European descent. Even though the commercial romanticizes the life and work of the nonwhite woman and the functioning of the settlers' social community, it is founded on racial stereotypes. Part of this was the transformation of basic corporeal practices through the introduction

of an engineered water supply—from drawing water out of ditches to turning on the tap—a story implicitly told by the advertiser.

In the nineteenth and early twentieth centuries, urban infrastructure underwent a fundamental transformation, with water taps replacing open canals and public wells. Water technology became deeply enmeshed in people's habits, influencing how they worked, spent their leisure time, and raised their children. In this article, I apply a microhistorical perspective to explore the diverse processes by which urban dwellers became habituated to new water technologies.[2] I focus on the learning of sanitary conduct in the appropriation of technology.[3] While the article centers on the urban environment in Los Angeles, it discusses whether and to what degree the "modern" human body took shape through the person's encounter with technological artifacts and how this related to the rise of Los Angeles as the prototype of the American metropolis.[4]

Methodologically, I approach the co-constitution of bodies and cities.[5] I lean on Michel Foucault and especially on his concept of "governmentality." Foucault suggests understanding power not merely as the top-down power of (state or city) authorities but also as incorporating the efficiencies of individual self-discipline.[6] As I will demonstrate, such self-regulation techniques were crucial for the establishment of infrastructural behavior regimes around 1900. Foucault also argues that what we know as the population of a certain territory is the result of an active construction process impelled by governments. The creation of the po-

2 Nelly Oudshoorn and Trevor Pinch, "Introduction: How Users and Non-Users Matter," in *How Users Matter: The Co-Construction of Users and Technologies*, ed. Nelly Oudshoorn and Trevor Pinch (Cambridge, MA: MIT Press, 2003), 1-25; Mikael Hård and Thomas J. Misa, "Modernizing European Cities: Technological Uniformity and Cultural Distinction," in *Urban Machinery: Inside Modern European Cities*, ed. Mikael Hård and Thomas J. Misa (Cambridge, MA: MIT Press, 2008), 1-20; for a case study operationalizing this approach, see Stefan Höhne, *New York City Subway. Die Erfindung des urbanen Passagiers* (Cologne: Böhlau, 2017).

3 Mikael Hård and Andrew Jamison, "Conceptual Framework: Technology Debates as Appropriation Processes," in *The Intellectual Appropriation of Technology: Discourses on Modernity, 1900–1939*, ed. Mikael Hård and Andrew Jamison (Cambridge: MIT Press, 1998), 1-15.

4 One of the best books written about Los Angeles is Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (London: Verso, 2006).

5 Pascal Eitler and Joseph Ben Prestel, "Body Polis—Körpergeschichte und Stadtgeschichte," *Body Politics* 4, no. 7 (2016), 5-20.

6 Michel Foucault, "Governmentality," in *The Foucault Effect: Studies in Governmentality*, ed. Graham Burchell, Colin Gordon, and Peter Miller (Chicago: University of Chicago Press, 1991), 87-104; "About the Beginning of the Hermeneutics of the Self: Two Lectures at Dartmouth," *Political Theory* 21, no. 2 (1993), 198-227.

pulation along ethnic divides shines through clearly in the implementation of a specific treatment of water technologies, since city authorities approached residents of nonwhite origin differently. Following Bruno Latour, I highlight the material fabric of infrastructure as a means of understanding how these practices took shape.[7] To situate the establishment of water networks within the broader trend for producing individual and collective bodies, I also borrow from James Scott, who suggests that statecraft is an attempt to make societies "legible" in order to reshape personal conduct.[8]

The article is arranged into two main parts, after I briefly set out Los Angeles as a case study. First, I analyze the efforts made by city officials, public health advocates, and water suppliers to familiarize people with the use of their technology. Second, I discuss the generation and consolidation of an ethnically segregated urban center through everyday water habits.[9]

## Inventing Los Angeles

After the transcontinental Santa Fe railroad line reached the West Coast in 1885, the dusty, sleepy Western outpost *El Pueblo de Nuestra Señora de los Angeles de Porciúncula* began to transform into a town.[10] This process was accompanied by the establishment of other railroad connections, the expansion of the harbor at San Pedro, the discovery of oil near what is today the Elysian Park neighborhood, and the settlement of significant industries in the area. The metamorphosis of *El Pueblo* into Los Angeles was also fueled by the imagination of those migrating to and settling in the region. Thousands of health seekers, retirees, and self-

7 Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (New York: Oxford University Press, 2005).

8 Scott sees "legibility" as the state's attempt "to arrange the population in ways that simplified the classic state functions of taxation, conscription, and prevention of rebellion." In his reasoning, "processes as disparate as the creation of permanent last names, the standardization of weights and measures, the establishment of cadastral surveys and population registers, the invention of freehold tenure, the standardization of language and legal discourse, the design of cities, and the organization of transportation seemed comprehensible as attempts at legibility and simplification." James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 2.

9 This article is also part of the effort of "Historicizing the City of Angels," *American Historical Review* 105, no. 5 (2000), 1667-91.

10 Robert M. Fogelson, *The Fragmented Metropolis: Los Angeles, 1850–1930* (Berkeley: University of California Press, 1993), 7.

reliant entrepreneurs arrived, bringing their dreams for a better life. Real estate agents, the citrus industry, tourist guidebook authors, and novelists romanticized the site and designed it as "a leisurely, inviting oasis."[11] Attracted to the mild climate, migrants in ever-growing numbers settled down, purchased land, and were in urgent need of water, which was as scarce then as it is today.[12] Southern California paradoxically suffered from both long droughts and occasional heavy rainfalls.[13]

Founded by 11 families from Sonora, Mexico, in 1781 near the mouth of the *Porciúncula* River, the tiny village changed little until the United States annexed California in 1848. In these years, the Los Angeles River (as it was later called) supplied the village with sufficient water.[14] The settlers established a system of ill-functioning open ditches, or *zanjas*. They commissioned a so-called *zanjero* or *zanjera*, who was usually a Native American, to administer the distribution of water.[15] During the last third of the nineteenth century, however, as the population of Los

11 Natalia Molina, *Fit to Be Citizens? Public Health and Race in Los Angeles, 1879–1939* (Berkeley: University of California Press, 2006), 18; Lawrence Culver, *The Frontier of Leisure: Southern California and the Shaping of Modern America* (Oxford: Oxford University Press, 2010); Clark Davis, "From Oasis to Metropolis: Southern California and the Changing Context of American Leisure," *Pacific Historical Review* 61, no. 3 (1992), 357-86.

12 About the connection between real estate speculation and water supplies, see Huntington Library, San Marino, California, South Riverside Land and Water Company Records, Box 24, Folder 42O: Letter from L. Baskin to the President of South Riverside Land and Water Co., August 25, 1891.

13 A document from 1931 stated, "Water is the life-blood of Southern California." Huntington Library, Southern California Edison Records (henceforth SCER), Box 333 (3): The Metropolitan Water District of Southern California, "Water From the Colorado River," 1931; see also ibid., Box 333 (2): Los Angeles Chamber of Commerce et al., "Water and Power Problems of the Los Angeles Metropolitan Area and Its Industrial and Commercial Activity," 1931; ibid., HM 66796: United States Army Corps of Engineers, Engineer Office, "Los Angeles County Flood Control Research," 1914; see further Jared Orsi, *Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles* (Berkeley: University of California Press, 2004).

14 LADWP Records Center, WP05-45 (23): The Department of Water and Power, City of Los Angeles, "Historical Notes: Los Angeles' Original Water Supply and Old Olvera Street," undated.

15 Abraham Hoffman and Teena Stern, "The Zanjas and the Pioneer Water Systems for Los Angeles," *Southern California Quarterly* 89, no. 1 (2007), 1-22: 4; William Deverell, *Whitewashed Adobe: The Rise of Los Angeles and the Remaking of Its Mexican Past* (Berkeley: University of California Press, 2004), chapt. 3; on the urban-river relationship more broadly, Stéphane Castonguay and Matthew Evenden, eds., *Urban Rivers: Remaking Rivers, Cities, and Space in Europe and North America* (Pittsburgh: University of Pittsburgh Press, 2012); Martin Knoll, Uwe Lubken, and Dieter Schott, eds., *Rivers Lost, Rivers Regained: Rethinking City-River Relations* (Pittsburgh: University of Pittsburgh Press, 2017).

Angeles exploded from 5,728 occupants in 1870 to 102,479 in 1900 and then 576,673 in 1920, city residents began to run short of water.[16] This triggered William Mulholland's efforts as chief engineer of the Los Angeles Water Department to bring water from the distance into the Los Angeles basin.[17] This well-known epic tale of male mastery over nature became the founding myth of Los Angeles.[18] Beginning in 1913, the massive 215-mile aqueduct from the Owens Valley to the San Fernando Valley provided the rising town with ample water. It fostered the city's stunning growth and expansion through land speculation, attracting even more people to Southern California.

New York City reached the 100,000-inhabitant threshold by 1820, Chicago in 1860, but Los Angeles did not achieve this until 1900.[19] Due to this laggard growth, the construction of new infrastructural systems in Los Angeles occurred in a short temporal period and urbanization in general was a hastier process than elsewhere.[20] That forced people to rapidly adjust to changing water supply systems.[21] In addition, the complex intersection of race, class, and gender was superimposed on the appropriation of new technology in Los Angeles.[22] It is crucial to take

16 Arthur G. Coons and Arjay Miller, *An Economic and Industrial Survey of the Los Angeles and San Diego Areas* (Sacramento: California State Planning Board, 1941), 388; Abraham Hoffman, "Water Famine or Water Needs: Los Angeles and Population Growth, 1896–1905," *Southern California Quarterly* 82, no. 3 (2000), 257-78.

17 William L. Kahrl, *Water and Power: The Conflict over Los Angeles' Water Supply in the Owens Valley* (Berkeley: University of California Press, 1982); Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Oxford University Press, 1985); Norris Hundley, *The Great Thirst: Californians and Water: A History* (Berkeley: University of California Press, 2001).

18 Margaret Leslie Davis, *Rivers in the Desert: William Mulholland and the Inventing of Los Angeles* (New York: HarperPerennial, 1993); Catherine Mulholland, *William Mulholland and the Rise of Los Angeles* (Berkeley: University of California Press, 2000); Eve Bachrach, "Villain and Visionary: Why we can't agree on William Mulholland," *Boom: A Journal of California* 3, no. 3 (2013), 8-10.

19 Janet L. Abu-Lughod, *New York, Chicago, Los Angeles: America's Global Cities* (Minneapolis: University of Minnesota Press, 1999), 7-13.

20 See Carl Smith, *City Water, City Life: Water and the Infrastructure of Ideas in Urbanizing Philadelphia, Boston, and Chicago* (Chicago: University of Chicago Press, 2013).

21 Conceptually, Vanessa Taylor and Frank Trentmann, "Liquid Politics: Water and the Politics of Everyday Life in the Modern City," *Past & Present*, no. 211 (2011), 199-241.

22 See, for instance, Raphael J. Sonenshein, *Politics in Black and White: Race and Power in Los Angeles* (Princeton: Princeton University Press, 1993); Sandra L. Myres, *Westering Women and the Frontier Experience 1800–1915* (Albuquerque: University of New Mexico Press, 1982); Becky M. Nicolaides, *My Blue Heaven: Life and Politics in the Working-Class Suburbs of Los Angeles, 1920–1965* (Chicago: University of Chicago Press, 2002); Miroslava Chávez-García, *Negotiating Conquest: Gender and Power in California, 1770s to 1880s* (Tucson: University of Arizona Press, 2004).

these divisions into account. Los Angeles was a transnational place where ethnic groups from the Americas, Asia, and Europe all lived together.[23] More precisely, it was a colonial space wherein white and wealthy men gradually took control of the Mexican village. This development peaked when James Toberman was elected mayor in 1872.[24] Together with the Los Angeles Common Council, he marginalized Mexicans' life in the town, restructuring their political institutions, economic order, social life, and cultural traditions. Integral to this process was the introduction of engineered water supply and disposal systems that conditioned the "modern body."[25]

## Conditioning the Modern Body

After Toberman's victory, white Americans initiated the transformation of *El Pueblo* into Los Angeles. They advanced the inner colonization of the city through the establishment of new technologies.[26] By remaking the urban structure with irrigation canals, sewers, and water pipes for domestic use, they profoundly changed the dominant power relationships in the city. This development originated in the early 1870s and accelerated through the last decades of the century. On April 4, 1873, the Common Council passed an ordinance to replace Los Angeles' main *zanja* with an enclosed brick pipe.[27] City leaders deemed the *zanjas* to be inefficient since water went "to waste in unproductive sand."[28] This was the beginning of the introduction of engineered water infrastructure in Los Angeles, and it was equally the starting point of a profound transformation of the city both above- and belowground. By 1904, *zanjas* no

23 For an approach taking into account these hemispheric interactions, see Nicolas Kenny and Rebecca Madgin, eds., *Cities Beyond Borders: Comparative and Transnational Approaches to Urban History* (Farnham: Ashgate, 2015).

24 Deverell, *Whitewashed Adobe*, 7.

25 About the concept of "modernity", see Frederick Cooper, "Modernity," in *Colonialism in Question: Theory, Knowledge, History*, ed. Frederick Cooper (Berkeley: University of California Press, 2005), 113-52.

26 David Torres-Rouff, "Water Use, Ethnic Conflict, and Infrastructure in Nineteenth-Century Los Angeles," *Pacific Historical Review* 75, no. 1 (2006), 119-40; Torres-Rouff, *Before L.A.: Race, Space, and Municipal Power in Los Angeles, 1781–1894* (New Haven: Yale University Press, 2013); Molina, *Fit to Be Citizens*.

27 Archives of the City of Los Angeles, Records Management Division Offices, Los Angeles City, Clerk's Office, Los Angeles (henceforth LACA): Council Minutes, April 4, 1873, vol. 10, 269-73.

28 LACA: "Zanjero's Report, 1883," Los Angeles Municipal Reports, 1879–1896, 115; also quoted in Torres-Rouff, "Water Use," 127.

longer existed, replaced by closed pipes. In addition to the construction of new infrastructure, city authorities remade the street system by paving, grading, and naming the roads.[29] Although this did not follow any master plan but simply evolved, homogenizing the physical geography was a step in the overall effort to make the city more effective and "legible."[30] A well-ordered and cleansed city should catalyze a well-regulated civic life.

Another driving force behind the construction of water disposal systems was the attempt to sanitize Los Angeles. Richard Sennett explains that nineteenth-century reformers "sought to create a healthy city on the model of a healthy body."[31] This occurred almost everywhere in America and Europe.[32] By establishing separate networks for potable water, sewage, and irrigation water, reformers and engineers hoped to prevent the proliferation of disease agents.[33] As primary sources attest, it was quite common for Angelenos to foul the *zanjas*. In 1850, the Common Council had ordered, "No filth shall be thrown in the zanjas carrying water for common use, nor into the streets of the city, nor shall any cattle be slaughtered in same,"[34] but these laws remained largely unenforced.

Since public health advocates in the second half of the nineteenth century regarded water pollution as a decisive factor in disease, new knowledge about the risks of bodily wastes spurred the construction of infrastructure.[35] The hygiene reform movement aimed to improve the sanitary conditions of the biological body, and they conceived infrastructure policies as an integral part of the "body polis." The term "body

29 Torres-Rouff, *Before L.A.*, 221.

30 Scott, *Seeing Like a State*, 2.

31 Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (New York: W. W. Norton, 1994), 347.

32 Martin Melosi, *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* (Baltimore: Johns Hopkins University Press, 2000), 58ff.; also noteworthy are Daniel Eli Burnstein, *Next to Godliness: Confronting Dirt and Despair in Progressive Era New York City* (Urbana: University of Illinois Press, 2006); and Stanley K. Schultz and Clay McShane, "To Engineer the Metropolis: Sewers, Sanitation, and City Planning in Late-Nineteenth-Century America," *The Journal of American History* 65, no. 2 (1978), 389-411.

33 See also LADWP Records Center, WP05-47 (7): Carl Wilson, "Water Sanitation: Waterworks vs. Bottled Supply: A Discussion," undated.

34 Cited after Hoffman and Stern, "The Zanjas and the Pioneer Water Systems," 7.

35 Martin Melosi, *Garbage in the Cities: Refuse, Reform, and the Environment, 1880–1980* (College Station: Texas A&M University Press, 1981); Charles Rosenberg, *The Cholera Years* (Chicago: University of Chicago Press, 1987); John Duffy, *The Sanitarians: A History of American Public Health* (Urbana: University of Illinois Press, 1990).

polis," as Pascal Eitler and Joseph Ben Prestel argue, conceptually brings together the historical co-constitution of cities and bodies.[36] It also helps to elucidate how this process relates to what Foucault describes as biopower: As older conceptions of sovereignty (to take life or to let live) transformed in the nineteenth century to "the right to make live and to let die,"[37] this spurred not only the introduction of water networks as means to realize the population's health but also more subtle safety measures, such as compulsory vaccinations or insurance.[38] The history of water supplies is closely connected to the history of biopower.

With engineered water systems, the notion of modern bodily hygiene came to Los Angeles.[39] This development was associated with the ideas of progress and modernity.[40] Reformers imagined the modern body as healthy and clean due to the person's technological competence. They held that health could be acquired through technological training. This is why, around 1900, leaders began to influence the behavior of consumers regarding technological appliances, resulting in various attempts to exert regulation over Angelenos' water use. While the following analysis works with primary sources from the producers' side, detailing their intention to regulate behavior, these attempts were not necessarily straightforwardly successful. On the users' side, the appropriation of new technology was a productive process; as David Edgerton argues, the "invention" is not the same as the "innovation" of technology.[41]

First and foremost, the authorities started education campaigns to convince people not to drink water from wells, sewers, or mountain streams. In 1917, for instance, public health officials sounded a warning, urging residents that "The water which appears as perfect in its clarity,

36 Eitler and Prestel, "Body Polis;" see also Richard J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years 1830–1910* (Oxford: Oxford University Press, 1987); recently Nikhil Anand, *Hydraulic City: Water and the Infrastructures of Citizenship in Mumbai* (Durham: Duke University Press Books, 2017); Marie Grace Brown, *Khartoum at Night: Fashion and Body Politics in Imperial Sudan* (Stanford: Stanford University Press, 2017).

37 Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France, 1975–1976* (New York: St. Martin's Press, 1997), 241.

38 Ibid., 243-4.

39 From a broader historical perspective, Kathleen M. Brown, *Foul Bodies: Cleanliness in Early America* (New Haven: Yale University Press, 2009), 15; Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (New York: Basic Books, 1990).

40 For instance, see LADWP Records Center, WP05-45 (23): Bureau of Water Works and Supply, "Water Wheels of Progress: An Account of Los Angeles and Its Water Supply from 1781–1939," 1939.

41 David Edgerton, *Shock Of The Old: Technology and Global History since 1900* (London: Profile Books, 2006), ix.

its tastelessness and its cold sparkle, may be the most deadly in the number of typhoid bacteria that it carries."[42] Diseases, however, were preventable, since it was "only necessary to guard against using food or drink which [had] been contaminated."[43] More than that, consumers were encouraged to engage in a specific technological activity: boil water before drinking. Such interventions in people's behavior should not only secure the population's survival but also format the individual and the collective body.

Enforcing sanitary conduct in Los Angeles was a prolonged and difficult effort; it fundamentally rested on a belief in the need to boil water to keep it safe. In 1917, a piece in *Edison Current Topics*, the magazine of the most important electrification supplier in Southern California, stated that boiled water was essential for survival "within every home from a one or two-room house on an isolated ranch to the most pretentious homes of our cities."[44] The article even lauded decocted water as a universally acknowledged good. Certainly, urging people to boil water was not unique to California; there emerged a nationwide movement. For instance, a pamphlet issued by the United States Children's Bureau advised young mothers, "If water is not known to be safe, it should be boiled before it is used for drinking, for brushing teeth, or for washing foods that are to be eaten raw."[45] Targeting infant care, preschool education was deemed particularly important in adjusting people to the proper use of infrastructure. A simple everyday activity came to be seen as a practice of literal and figurative purification. This liminal practice was synonymous with the formation of a "legible" and governable population.

Even the construction of infrastructure itself came with specific behavior expectations. Enclosed underground pipes required people "to stop the decades-old practice of washing clothes, swimming, and bathing in the zanjas."[46] The *zanjas* were an important socializing factor in village life because Angelenos—both women and men—had to walk out of their adobes to obtain water; the new infrastructure revolutionized

42 LADWP Records Center: "Purity of City's Water Supply," *Public Service Bulletin*, August 1917, vol. I, no. 5.

43 Ibid.

44 Huntington Library, SCER, Box 308 (6): Charles H. Coulter, "Electric Water Heating with Range Installation," *Edison Current Topics*, August 1917, vol. VI, no. 8, 158.

45 National Archives at College Park, College Park, MD, Children's Bureau Records, Publications Relating to Children's Growth and Development, 1923–1984, Box 2: "The Child from One to Six: His Care and Training [Bureau Publication No. 30]," 7.

46 Hoffman and Stern, "The Zanjas and the Pioneer Water Systems," 19.

everyday life.[47] Consumers were advised to stay in their homes to use safe and healthy tap water.[48] Underground pipes and house connections physically reinforced individuality in the neighborhoods, and material artifacts such as pipes or water taps once more restructured the everyday in the city. As people grew accustomed to the water infrastructure, they renegotiated sociocultural dichotomies between individual responsibility, public welfare, and private and public spaces. In some regards, the appropriation of material artifacts fashioned the very foundations of their community.

This also proved true of the metropolitan Department of Public Service, as consumer magazines suggested how to plant vegetable and flower gardens.[49] These recommendations, camouflaged as neighborly and friendly ideas, served to endorse specific irrigation practices to maximize crop growth. The same department pushed Angelenos to irrigate arid land. In 1917, it advertised that "City Grants Free Water to Vacant Lot Gardeners," encouraging Angelenos to help keep the city beautiful.[50] Individualizing public services was common in Los Angeles at the turn of the twentieth century and fitted well with the fact that the water supply system was publicly owned and operated at that time.[51] Redefining notions of civic duty, incorporating the city's health into practices of the individual, and demanding residents to co-fashion their urban environment profoundly changed the power structure of Los Angeles. City authorities, together with public health advocates and businessmen, constituted and governed the population according to biopower conceptions.

Water suppliers tried to condition bodily practices by repeatedly campaigning for appropriate treatment of technologies. Meter men visited every household monthly to read the meter and to instruct consum-

47 Primary sources are limited, but the advertisement quoted in the beginning, although clearly fictional in intent, hints at early water customs. LADWP Records Center, WP05-44 (2): Department of Water and Power, "Los Angeles Municipal Water and Power Advertisements," April 1929.

48 For example in LACA: "Zanjero's Report, 1883," *Los Angeles Municipal Reports*, 1879–1896.

49 LADWP Records Center: "Irrigation of the Home Garden," *Public Service Bulletin*, May 1917, vol. I, no. 2.

50 LADWP Records Center: "Water: City Grants Free Water to Vacant Lot Gardeners," *Public Service Bulletin*, May 1917, vol. I, no. 2.

51 From 1868 onwards, the privately owned Los Angeles City Water Company operated the water supply system. In 1902, water supply became the responsibility of the municipal Department of Water and Power (LADWP). Hoffman and Stern, "The Zanjas and the Pioneer Water Systems," 18-9.

ers thoroughly in how to use their technological appliances.[52] The appropriation of infrastructure rested on personal exchanges, and these personal exchanges meant continuous monitoring. Under the slogan "conservation ought to be our watchword," they fashioned daily life practices and constructed habits for the proper use of infrastructure. In doing so, they aimed to educate consumers on the most basic rules. In 1918, a *Public Service* op-ed emphasized,

> After starting your heater, instead of taking a nap, going to the grocery store or even a picture show, watch your boiler, and when the water is hot within three or four inches of the bottom, shut off the gas. Then, instead of throwing away money on burned meter bills[,] you can buy Thrift Stamps and help win the war.[53]

This quotation relates more to saving gas than water, but the attempt to shape behavior remains the same. Utility companies connected the accurate use of technologies to World War I and characterized specific bodily practices as a national sacrifice and an effective means of molding habits. Ultimately, they co-constituted the individual body and the national community.

This regime was also supposed to encourage self-surveillance. Since leaking pipes were a constant challenge for water companies, they depended on the cooperation of users. An effective way to train consumers in self-surveillance was to remind them of their bills. This is why *Public Service* wrote "A little leak makes a large water bill. Watch the leaks and stop them immediately."[54] This do-it-yourself imperative is threaded through many primary sources. For instance, instructions for consumers advised how to find a leak in the "urinal, gas engine, soda water fountain, fish pond, cooling apparatus, drinking fountain or any device" by closely following specified steps: "Shut off the flow of water from all fixtures supplied by the meter. Note [that with] the location of pointer on the dial of lowest denomination and the meter being in proper working order, pointer will move, if water is escaping through defective plumbing."[55]

52 LADWP Records Center, WP05-46 (15): Department of Water and Power, "Electric and Water Service Rate Schedules and General Information for Consumers," November 1, 1927.

53 LADWP Records Center: "Meter Care Helps in Conservation," *Public Service*, April 1918, vol. 2, no. 4.

54 LADWP Records Center, "Watch Leaks in Pipes—Save on Water Bills," *Public Service Bulletin*, February 1918, vol. 2, no. 2.

55 LADWP Records Center, WP05-46 (15): Department of Water and Power, "Electric and Water Service Rate Schedules and General Information for Consumers," November 1, 1927, 27.

It is telling that companies primarily delegated and outsourced fixing the leakage to the consumer.[56] In the "fragmented metropolis," as Robert Fogelson labels Los Angeles, this was a necessity for water suppliers.[57] Individualizing responsibility for the maintenance of technology, however, also matched the spirit in the Far West, where people held values such as individuality, autonomy, and technophilia in high esteem.[58]

Among the noticeable attempts to regulate users' conduct was a campaign against water wastage. A 1920s advertisement stressed in huge letters, "Please do not waste water!"[59] Reminding that Los Angeles was undergoing a severe drought, the advertisement claimed that further water shortages could be prevented if consumers "will STOP WASTING WATER."[60] The advertisement urged consumers to adopt specific domestic routines to prevent shortages. The first rule was "to discontinue lawn and shrub watering." Others read "Do not allow water to run from the faucet continuously when you are in the bathroom. Turn the water on only when you need it; turn it off as soon as possible" and "Do not waste water by washing off your driveway and sidewalk when a broom will do the work just as well." The text asked readers to adhere to these rules "both in the interest of the consumer and of the city." Interestingly, it did not demand that people stop bathing or using water for sanitary purposes. Bodily hygiene already seemed to be well established as a guiding principle. The necessity of the reminders, however, hints that people often did not comply with expectations when interacting with infrastructure.

56 See LADWP Records Center, WP05-63 (11): Department of Public Service, Bureau of Water Works and Supply, City of Los Angeles, "Results of Water Wastage: Source, Detection, and Prevention," undated.

57 Fogelson, *The Fragmented Metropolis*.

58 Cf. Volker Janssen, ed., *Where Minds and Matters Meet: Technology in California and the West* (Berkeley: University of California Press, 2012).

59 LADWP Records Center, WP05-45 (8): Board of Water and Power Commissioners, City of Los Angeles, "Please do not waste water!," undated.

60 All quotes are from ibid. (capitalization in original, italicization omitted).

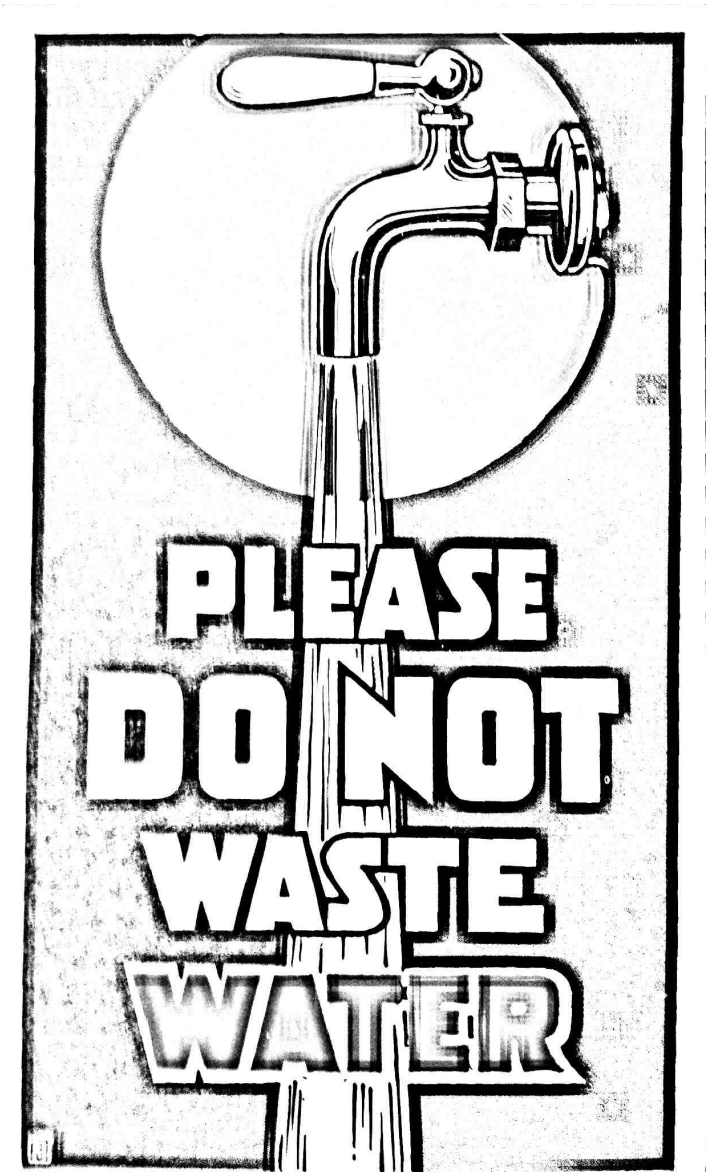



Figure 2: “Please do not waste water!” (undated). See footnote 60. Courtesy of the Los Angeles Department of Water and Power.

This campaign may seem an ordinary daily example, but it was part of the overall attempt to familiarize people with the appropriate handling of water. To some extent, the campaign tells us that the way people used water was and is a historically contingent product resulting from a specific attempt to regulate behavior. It also resulted from human encounters with the material resistance force of infrastructure, even if only a few primary sources document the latter. Back in the nineteenth and early twentieth centuries, public health advocates and water suppliers urged consumers to internalize proper practices and fashion these into unquestionable daily routines. This was deemed the most efficient way

for the "habitualization" of new corporeal practices.[61] For instance, the instructions advised consumers to learn to read the meter and even offered exercises to train consumers in this technological ability.[62] Officials in the Department of Water and Power tried to prepare users with background knowledge of the hydropower systems.[63] This information was often presented in playful ways; a small booklet published by the department proposed educational tours around Los Angeles ("Water and Power Land") to familiarize people with their energy supplies and create an awareness of what was expected from them.[64]

In Los Angeles, however, enforcing behaviors proved difficult, and the old ways persisted. Many landowners refused to use public water because they valued self-sufficiency. Others wanted to avoid paying or were suspicious of having their meters tested. A report to the meter department at the Southern California Edison Company noted, "In nearly every case[,] it is necessary for him [the meter man] to explain to the people his purpose in testing the meter."[65] It became evident that many people countered new technologies with "denoting willfulness and spontaneous self-will,"[66] while others attempted or committed sabotage.[67] A November 1913 letter to the Del Rey Land and Water Company headquarters reported a hole "drilled in the side of the meter and a wire

61 I follow the definition of "habitualization" given by Peter Berger and Thomas Luckmann: "All human activity is subject to habitualization. Any action that is repeated frequently becomes cast into a pattern, which can then be reproduced with an economy of effort and which, ipso facto, is apprehended by its performer as that pattern." Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (Garden City: Anchor Books, 1966), 71; Michael Polanyi, *The Tacit Dimension* (Chicago: University of Chicago Press, 1966); see also Robert E. Park, "The City: Suggestions for the Investigation of Human Behavior in the City Environment," *American Journal of Sociology* 20, no. 5 (1915), 577-612.

62 LADWP Records Center, WP05-46 (15): Department of Water and Power, "Electric and Water Service Rate Schedules and General Information for Consumers," November 1, 1927, 28.

63 See, for instance, LADWP Records Center: R. F. Del Valle, "The City and its Utilities," *Public Service Bulletin*, June 1917, vol. I, no. 3; Huntington Library, SCER, Box 308 (2): W.H. Darnell, "Our Under-the-Street World," *Edison Current Topics*, vol. II, no. 9, September 1913, 333-6.

64 LADWP Records Center, WP05-45 (8): Department of Water and Power, "Little Journeys into Water and Power Land, Trip No. 2," March 1929.

65 Huntington Library, SCER, Box 39 (11): Letter from B. F. Pearson to W.L. Frost, August 26, 1909.

66 Alf Lüdtke, ed., *The History of Everyday Life. Reconstructing Historical Experiences and Ways of Life* (Princeton: Princeton University Press, 1995), 313.

67 Anna Harris, "In a Moment of Mismatch: Overseas Doctors' Adjustments in New Hospital Environments," *Sociology of Health and Illness* 33, no. 2 (2011), 308-20.

inserted with a bend which caught hold in the disk, keeping the meter from registering. To my mind, it was a deliberate plan."[68] This quotation shows that water consumers rearranged materiality skillfully to make it suit their needs.

There were also frequent quarrels over breaks in the pipeline. In an 1899 letter addressed to a water consumer, E.M. Spoor from the New Bear Valley Irrigation Company denied that "our *zanjero* on the Alessandro line has been closing the gate occasionally at our well in order to force the water back for irrigating certain tracts in the Midland district, which you say causes breaks in the pipe line."[69] Spoor urged the customer to repair the pipe himself. He attributed the difference between the number of inches on the water bill and the number reported by the meter to the leaking pipe. Even without primary documents establishing whether the consumer did repair the pipe, the volume of reports about users' productive and imaginative seizure practices suggests consumer education was a contingent and seemingly indefinite process.

## Creating the Healthy City

If indeed the corporeal practices of users were molded by encounters with infrastructural artifacts, there are only a limited number of sources documenting this process. The problem lies in these practices' implicit character. Normally, familiarity with technology is acquired through everyday exercises. It is the exception for these exercises to be materialized in primary sources. Rather, it is necessary to reinterpret existing documentation. While this article so far primarily presents written and visual sources—reports by consumers detailing their experiences with technological appliances, consumer-behavior-related newspapers, general lay instructions, administrative documents mirroring the everyday interaction between users and water companies—shifting attention to the intersection of race, class, and gender in Los Angeles between 1870 and 1920 facilitates including additional sources. In doing so, it becomes clear that the idea of the healthy body came hand in hand with the objective of the healthy city, both imagined as biologically purified. In Los Angeles, more than elsewhere, purification was thought in racial, classed, and gendered categories. The healthy city is thus related to the for-

68 Huntington Library, SCER, Box 37 (1): Letter from District Agent to C. A. Howell, November 21, 1913.

69 Huntington Library, 74199: Letter from E. M. Spoor to H. A. Plimpton, April 12, 1899.

mation of biopower, in which groups were defined as entities for management by the government.

With the construction of water infrastructure in Los Angeles, an influential discourse emerged that attached technological incapability to the bodies of ethnic minorities. This discourse was closely connected to the marginalization of Mexican life in the old city. More specifically, the *zanjas* were the remains of Mexican dominance over Southern California, and as they disappeared, the cultural identity of Mexican Angelenos lost significance in the city. Sociohistorically, for Los Angeles' first one hundred years, Mexicans considered the water of the Los Angeles River to be a common good for all people—if they were willing and able to obtain and haul it themselves.[70] In May 1873, shortly after the Common Council had decided to replace the *zanjas* with underground pipes, the city fathers passed another law stating that water had to be purchased.[71] This ordinance was driven by the growing awareness that this resource was a scarce commodity in the semi-desert area. Nevertheless, by defining water as a consumption good, the Common Council dismissed Mexican water customs. Mexican residents could no longer follow their tradition and use as much water as they wanted; they depended instead on their financial resources.

The water supply and disposal systems in Los Angeles reflected a profound infrastructural asymmetry. Until the beginning of the twentieth century, neighborhoods inhabited by Mexican and Chinese Angelenos were largely excluded from these systems. Maps from the 1890s show that local construction firms did not build water supply pipes and sewers in Sonoratown (ranging east from Main Street to the Los Angeles River and north from Aliso Street to Main Street) and Chinatown (around Los Angeles, Commercial, and Alameda Streets).[72]

The number of inhabitants in these areas, however, grew exponentially: While only 80 Chinese people lived in Los Angeles 1870, this number

70 LACA: Council Minutes, March 3, 1836, vol. 1, 102-3; see also Huntington Library, Los Angeles City Water Rights Collection, Research Material, Box 2 (1): "Conclusions of John Caughey Re Existence and Water Right of the Pueblo of Los Angeles," 1966; and other material on water rights in this collection; for instance, ibid., Andrew F. Rolle and Iris Higbie Wilson, "A Study of Laws and Customs Pertaining to the Use of Water in California under Spain Und Mexico," 1966.

71 LACA: Council Minutes, May 3, 1873, vol. 10, 292-5.

72 Map by J. H. Dockweiler, Los Angeles City Engineer, submitted and bound with *Los Angeles Municipal Reports*, 1891, bound between pages 53 and 54; cited after Torres-Rouff, *Before L.A.*, 223; see also Richard Griswold del Castillo, *The Los Angeles Barrio, 1850–1880: A Social History* (Berkeley: University of California Press, 1979), 141-50.

rose to 221 in 1880 and exploded to 1,200 in 1890.[73] The increase was linked to the overall rise of the population of Los Angeles. Despite racial bias and lack of fresh water, many nonwhite people continued migrating to Southern California. Nevertheless, only after 1900 could Mexican or Chinese Angelenos gradually profit from public water and sewage disposal. Isolated water pipes were installed in the 1890s, but an actual water distribution network was built as recently as the neighborhoods' relocation in the 1910s and 1920s. The Mexican community was resettled to East Los Angeles, Belvedere, and City Terrace, while in their former neighborhood a new Chinatown was built. Old Chinatown was transformed into an industrial real estate zone close to where Union Station is located today.[74]

One obvious cause for this late connection to the water network was that residents of Sonoratown and Chinatown lacked the financial means to pay for the extensions. Owner initiative played an important role in the construction of the water infrastructure because property holders had to petition for extensions.[75] However, even purchasing water seemed to have been expensive for nonwhite residents: In 1889, for instance, the water supply system was still privately owned and charged consumers between $1.50 and $3.00 on a flat-rate, monthly schedule.[76] Many residents could not pay for the construction of new pipes or the costs of water delivery, so an infrastructural asymmetry was expected.[77] However, class and race intersected in the uneven growth of water networks in Los Angeles.

To understand the structural inequality and especially the prevalence of ethnic stereotyping in those years, this story must be contextualized within the bigger picture. In the 1880s United States, anti-immigrant attitudes reached an ever larger public. In May 1882, President Chester A. Arthur signed the Chinese Exclusion Act, which prohibited all Chinese labor immigration to the United States.[78] Anti-Chinese sentiments were

73 Sonoratown grew less dramatically, cf. Torres-Rouff, *Before L.A.*, 240.

74 Jean Bruce Poole and Tevvy Ball, *El Pueblo: The Historic Heart of Los Angeles* (Los Angeles: The Getty Conservation Institute and the J. Paul Getty Museum, 2002), 54.

75 Even in the 1920s, owners were still "required to pay a frontage assessment of eighty cents per front foot, in addition to the regular charge for the service connection for such property before water will be served to it." LADWP Records Center: "Rules for Extensions," *Public Service Bulletin*, February 1920, vol. 4, no. 2.

76 Hoffman and Stern, "The Zanjas and the Pioneer Water Systems," 14.

77 Torres-Rouff, *Before L.A.*, 224.

78 Andrew Gyory, *Closing the Gate: Race, Politics, and the Chinese Exclusion Act* (Chapel Hill: University of North Carolina Press, 2000).

especially common in California.[79] In 1882, the Los Angeles Common Council deliberated the exclusion of "any and all Chinese" from the city, but it did not take action. In 1885, some well-known council members claimed that Chinatown was "a disgrace to the city."[80] While immigration from China sharply dropped in the 1880s, Chinese Americans who were already legal citizens of the United States faced discrimination. In particular, white Americans employed cleanliness, biologically and metaphorically, as a way both to fight disease and to negotiate social affiliations and categories of citizenship.[81] Modeling identity through alterity, they constituted the population of Los Angeles as an ethnically white community with biological purity as the central vector. Race, hygiene, and infrastructural modernization came together to form a powerful interpretation scheme for the co-construction of the body and the city.

The unknown author of a letter to the *Los Angeles Daily Times* explicitly connected the health of the human body to the health of the city. He wrote,

> The first thing a stranger does upon entering town is to look into the health of its people. If a person is looking for a home[,] he is more anxious to learn if there is a perfect system of drainage. He looks about to find the source of water, and if [it is] plentiful and pure. No town can be healthy with impure water.[82]

Then he complained about Chinatown "with all its filth and stench under the nostrils"[83] and predicted that Los Angeles would become "a very unhealthy city" if it would not clean up Chinatown.[84] White Angelenos used language to deploy anti-Chinese—and, to a lesser degree, anti-Mexican—sentiments. They did not perceive Chinese Americans as rightful constituents of the city. White Americans, who lived in newly built houses and walked on recently paved streets, regarded themselves as clean, healthy, and progressive, while they described Mexican and Chinese Americans as filthy, prone to sickness, and incapable of using

79 Elmer C. Sandmeyer, *The Anti-Chinese Movement in California* (Urbana: University of Illinois Press, 1991); Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* (Berkeley: University of California Press, 2001); Scott Zesch, "Chinese Los Angeles in 1870–1871: The Makings of a Massacre," *Southern California Quarterly* 90, no. 2 (2008), 109-58; Sandmeyer, *The Anti-Chinese Movement in California*.

80 LACA: Council Minutes, April 8, 1882, vol. 15, 317-8; Torres-Rouff, *Before L.A.*, 237-8.

81 Suellen Hoy, *Chasing Dirt: The American Pursuit of Cleanliness* (New York: Oxford University Press, 1995).

82 Cited after Molina, *Fit to Be Citizens?*, 27.

83 Cited after ibid.

84 Cited after ibid., 28.

sanitation methods and other technologies.[85] Race intersected with class because it was also these white Angelenos who had the financial means to improve their living conditions.

Newspapers such as the *Los Angeles Daily Times* enforced and popularized these stereotypes. On April 9, 1882, the *Times* reported that Edward Schieffelin, a wealthy member of the Common Council, "made a tour of inspection through Chinatown last week, and found the moral and physical condition too low to describe."[86] The day before, the newspaper published a lengthy article about a doctor's work in Chinatown, stating that the

> habit of opium-smoking is universal among them. Their ideas of morality and virtue are on a low plane. Their virtuous women in California can almost be counted on one's fingers. Their class of evil women are almost without exception, foul with bad diseases. Nearly all the Chinese suffer more or less from them. Leprosy with all its horrors is common among them. [...] And it is through these rotten mouths and putrefying throats that water is dashed through and then ironed into the clothes of the white people who patronize their laundries.[87]

These stereotypes were prolific.[88] When it came to representing Chinatown's residents, different forms of oppression interrelated, among them the equation of Chinese with literal or figurative sicknesses and, in an almost religious tone, badness as such. Both forms were expressed in an implicit inferiorization and feminization of the Chinese, thus establishing gender stereotypes, as "feminine" was treated as lesser and undesirable, and informing social identities and the resulting power hierarchies in Los Angeles. A few months later, the *Times* belied the cultural habits of the Chinese residents in Los Angeles by epitomizing Chinatown as the "foul hotbed of stench and vice."[89] In the minds of white Angelenos, unsanitary conduct was a good index for the identification of abnormal political, economic, and social behavior. Sanitary hygiene, by contrast, was a precondition for sane conduct. From the angle of the history of biopower, unsanitary individuals were not only unfit for inclusion in the population of Los Angeles but even dangerous to the city's health.

85 Torres-Rouff, *Before L.A.*, 240-9.
86 "About Town," *Los Angeles Daily Times*, April 9, 1882.
87 "A Chinese Chapter," *Los Angeles Daily Times*, April 8, 1882.
88 Transfers from other cities also played a role. See, with reference to San Francisco, "Chinese Responsible for the Present Small-Pox Visitation," *Los Angeles Daily Times*, January 20, 1882.
89 "Bad Sewerage and Bad Smells," *Los Angeles Daily Times*, September 14, 1882.

In the late nineteenth century, Angelenos construed the sanitized body as ethnically white, wealthy, and male and represented it as modern. Water supplies served as the technology enabling this kind of modernity. In the words of a 1939 advertisement for hot water, water was a synonym for what the body was supposed to be, "safe, fumeless, thrifty, silent, long-lasting, flameless, clean, modern."[90] White Angelenos represented Chinese and Mexican bodies as falling short of this idea of modernity in the sense of being female, inferior, sick, and lacking fitness for urban civilization. This binary discursive differentiation between white and nonwhite bodies was closely connected to the imagery of a healthy city body. According to the unknown author of the letter to the *Times* quoted above, the healthy city featured pure water, a system of drainage, and waste disposal.[91] The white body was fit to use these technologies; the nonwhite body was not. Consequently, the white community of Los Angeles fashioned their own identity by rethinking ethnicity, class, and gender along opposing lines of purity and nonpurity. They created Los Angeles as a community that was purified but still vulnerable to illness and thus in need of prevention from contamination. Water ultimately served as the tool by which they renegotiated the boundaries of affiliation. They performed the healthy city through corporeal hygiene practices.

White Angelenos used language to lay claim to their ethnically structured worldview, and they employed the city's landscape to materially impose disparities on nonwhite bodies. Anti-Chinese and anti-Mexican attitudes manifested themselves in physical asymmetries of the water infrastructure. These asymmetries were carved into the city landscape and, since infrastructures serve as political technologies of power, molded Angelenos' behavior.[92] It is difficult to determine whether the infrastructural asymmetry or the racial stereotypes came first. David Torres-Rouff suggests that infrastructure created "anchors for new racial categories."[93] The opposite might also be true, since racial categories prevented the Common Council from opting for the construction of new water infrastructure in Chinatown or Sonoratown. While it is certainly true that technologies and social power relations influenced each other,

90 LADWP Records Center, WP21-6 (6): "Hot Water with New Savings—Lowest Rates," March 13, 1939.

91 Cited after Molina, *Fit to Be Citizens?*, 27.

92 Cf. Jens Ivo Engels and Gerrit Jasper Schenk, "Infrastrukturen der Macht—Macht der Infrastrukturen. Überlegungen zu einem Forschungsfeld," in *Infrastrukturen und Macht von der Antike bis zur Gegenwart, Beiheft der Historischen Zeitschrift*, ed. Birte Förster and Martin Bauch (Munich: De Gruyter Oldenbourg, 2014), 22-58.

93 Torres-Rouff, *Before L.A.*, 247.

the geography of Los Angeles pre-structured the ways in which residents could make sense of their community and their social relations with each other.

Installing water pipes and sewers in Sonoratown and Chinatown was accompanied by elaborate attempts to govern the daily lives of residents. These rules targeted, monitored, and limited the business activities of Chinese produce dealers and launderers.[94] After Chinese and Mexican people were offered the chance to benefit from public water, their daily lives and bodily practices should be brought into subjection. Nonwhite residents should be forced to adapt to the water customs and technologies of white Angelenos.[95] From this perspective, the construction of water pipes and sewers in new Chinatown and new Sonoratown was an act of seizure. Consuming tap water meant assuming the white Angelenos' cultural norms and practices. The water infrastructure was intended to marginalize Mexican and Chinese bodies and materialize the assumed white superiority, although these attempts were not always successful.

While this article, due to limited sources, primarily works with materials from white Americans, some documents reveal subversion, manipulation, and resistance (or a claim to better living conditions) among the nonwhite users of water as well. Often, they hesitated to incorporate water technologies into their lives because their cultural traditions taught them a different set of behaviors. Sometimes they did not even judge the construction of water infrastructure as the penetration of their cultural identity. A letter of complaint by a group of Mexicans from 1916 reveals that rather than rejecting water infrastructure, they wanted the technologies and hygiene practices of white Angelenos and asked for better housing conditions. They claimed,

> This wage they set is not enough for the nourishment of one person. Health comes from this[,] and these precautions are the basis for achieving sanitation. Health we have. What we need is liberty and the opportunity to achieve it. We need a bathroom in each section of camp and that the toilets that are now next to the sleeping quarters be moved. Many times[,] their bad smell has prevented us from even eating our simple meal.[96]

94 Molina, *Fit to Be Citizens?*, 31-40.

95 Direct evidence does not exist, but the racially biased tone of many public health reports indicates such an interpretation. See, for an early example, LACA: "Public Health Officer's Report, 1884," *Los Angeles Municipal Reports*, 1879–1896.

96 Cited after Molina, *Fit to Be Citizens?*, 67 (translation hers).

The letter contained a handwritten addendum: "The Mexican race is not different from the American race[,] and one should not think that disease takes hold in only our bodies. We are all human[,] and they should not apply this procedure only to Mexicans."[97] As Natalia Molina underlines in her study *Fit to Be Citizens?*, this letter suggests that Mexican people did not derive their poor sanitary conditions from their own imbedded cultural habits but rather from structural discrimination by white Americans.[98] Such signs of opposition evidence once again that leading people to adjust to new technology was anything but a linear process. Residents suffering oppression in different forms—but not only they—challenged the prolonged education efforts by finding their own way through the interaction with technology and the producers' instructions. Certainly, they possessed historical agency, and so did the physical infrastructure. While this last aspect opens the door to a different, albeit related, story, there is sufficient proof to suggest that the appropriation of infrastructure was a historically contingent process.

## The Modern Body as a Technological Body

When the city authorities of Los Angeles, encouraged by public health advocates and businessmen, introduced municipal water supply and disposal systems, they aimed to co-constitute the modern body and the modern city. Represented as sanitary, healthy, and vital, the establishment of water infrastructure rested on a specific idea of modernity. Water technologies fueled this transformation of the city and equipped the resulting segregation with material durability. In an apparent reversal of older forms of water use, municipal officials, social reformers, and water companies tried to push consumers to adjust their bodily habits to new technologies as part of the overall attempt to regulate behavior in the late nineteenth and early twentieth centuries. Essentially, this reform rested on the premise that water users should make a habit of the new rules and exert self-discipline. From campaigns against water wastage to the do-it-yourself repair movement, the patterns of molding individual conduct added to the evolution of power conceptions and contributed to the racialized, classed, and gendered segregation of Los Angeles.

All of this suggests the historicity of corporeal activities regarding technology in modern times. The ways that people interacted with infrastructure and that infrastructure influenced them are contingent prod-

97 Cited after ibid.
98 Ibid., 67.

ucts that were shaped through the materiality of technological appliances, the city's spatial arrangements, and various efforts to gain influence on the human body and its ability to self-regulate. However unstable and contradictory the relationship between technology and the body may have been, it was durable to the extent that it yielded specific and sometimes unforeseen behavioral paragons. From the perspective of Angelenos around 1900, being modern could not have been meaningfully separated from technology. If the co-constitution of the modern body and the city truly was mediated through infrastructure, then being human essentially was about being technological.[99]

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99 See also David E. Nye, *Technology Matters: Questions to Live with* (Cambridge: MIT Press, 2006), ix.