

Water Use, Ethnic Conflict, and Infrastructure in Nineteenth-Century Los Angeles

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Beginning in 1873, Los Angeles replaced zanjas, or open canals, with pipes for irrigation and sewage. From the city's founding, the zanjas had carried irrigation and waste waters between the Los Angeles River and the citizens. Whereas Mexican public philosophy supported maintaining the zanjas for open access and maximal use, European American newcomers championed enclosed pipes as a means to improve sanitation and enhance opportunities for revenue. Yet city governors did not distribute sewer services equally, denying sewerage to Mexican and Chinese Angelenos. In doing so, they established new relationships of institutional, infrastructural, and environmental inequality between brown residents and the city government.¹

Infrastructure development is a useful historical process within which to explore the relationship between the environment and ethnic conflict. Sewers, pipes for potable water, and roadways not only constitute a city's physical foundation, they also determine the layout of its built space. Because such spaces are homes, businesses, and gathering places, they in turn shape a city's social life and economy.² Consequently, sewers, in both their construction and their location, play a critical role in defining the physical and cul-

I would like to thank Mary Furner, Randy Bergstrom, and Paul Spickard for their support and encouragement. In addition, this paper owes intellectual and textual debts of gratitude to Thomas Sizgorich, Nancy McLoughlin, John Baranski, April Haynes, Sarah Elkind, Coll Thrush, Matthew Booker, and Christina Torres-Rouff. Part of this project was completed with funds from a UC/MEXUS dissertation research grant. Lastly, the three anonymous referees of the *Pacific Historical Review* provided suggestions and insight for which I am truly grateful.

1. I use the term "brown," rather than "people of color," to avoid granting a naturalized centrality to whiteness.

2. Writing about New York, Matthew Gandy has recently theorized that putting questions of environmental justice at the center of analysis "compels us to see urban

tural geography of urban places. In Los Angeles, new sewer and irrigation systems meant that the city would no longer rest upon a Spanish/Mexican foundation, in either a physical or ideological sense.

The Los Angeles city council established the city's first public sewer on April 4, 1873. Creatively named the Main Sewer, it replaced Zanja 9, one in a system of open ditches and canals used to irrigate land, provide potable water, and remove waste from the city. Instead of the *zanja's* open trench, the Main Sewer was to move water underground, through eight-foot segments of brick pipe that had an internal diamond-shaped tube fifteen inches in height.³ The city council ordered the conversion of two other *zanjas* into sewers within the next two months. This action marked the first significant strategic shift in water conveyance since the city's founding in 1781. Indicating a commitment to wholesale change, during the 1880s the city began a piecemeal replacement of all surface flow with closed pipes, establishing separate networks to carry wastewater, salable irrigation water, and ultimately potable water. The transition from *zanjas* to pipes signaled more than a change in Angelenos' relationship with their environment. It also altered their relationships with the city government and with each other.

This transition had enduring significance because the presence or absence of sewers differentially affected neighborhood development and the quality of life for local residents. The decision not to build sewers in Mexican American and Chinese neighborhoods created a continuing problem because it produced and reinforced stereotypes of Mexicans and Chinese as dirty and diseased. Inequitable distribution reified constructed racial identities over

environmental change not simply as a function of technological change or of the dynamics of economic growth but as an outcome of often sharply different sets of political and economic interests." Matthew Gandy, *Concrete and Clay: Reworking Nature in New York City* (Cambridge, Mass., 2002), 4.

3. Los Angeles City Archives, April 4, 1873, vol. 10, pp. 269–273, Archives of the City of Los Angeles, Records Management Division Offices, Los Angeles City Clerk's Office, Los Angeles (hereafter LACA). Documents cited as Los Angeles City Archives (LACA) consist of manuscripts that were formerly bound but have since been unbound. The individual sheets are kept in folders, although the former volume numbers are still used to reference particular manuscripts. Some manuscripts are divided into multiple folders. The term "LACA" and the date are as close to a title as many of the documents have.

the long haul.⁴ The initiation of a new public service that was distributed unequally meant that discrimination would be built into the pipes and embedded in the city's foundation.

While not an unusual aspect of urban development in general, the Los Angeles sewer system was born into a particularly acrimonious policymaking family. Mexican Californians and European Americans had been competing for space, resources, and the power to determine the city's future since the early 1840s. As Los Angeles entered its third decade as a U.S. city, profound ideological differences persisted regarding the proper relationships among citizens, government, the economy, and the natural environment. Because of the region's arid climate, discussions about water frequently magnified these differences, especially when ownership, use, and access were at stake.

Mexican Californians, accustomed to water laws that mandated equal access, conservation, and communal rights, objected to underground pipes containing sewage and irrigation waters. Such channels removed water from the public domain, failed to maximize water's life-giving potential, and did so in ways that favored individual needs over those of the community as a whole. Any effort to replace the open *zanjas* with closed pipes would also entail conquering essential elements in Mexican Californian ideology. Conversely, European Americans, more inclined to view water instrumentally and individually, cast the Mexican system as primitive, dirty, and inferior, rejecting the *zanjas* as inefficient and ill-suited to preserving public health. For them, these shortcomings made pipes and sewers necessary remedies. Having infused their arguments with cultural aspersions, policies growing out of their critique incorporated such value judgments into policy.

For two decades, Mexican Californians held the upper hand in the competition between these two visions. Their ability to restrict water use in ways that conformed to the Spanish and Mexican system meant that the *zanjas* continued as the principal means of water conveyance in the city. After 1870, however, Mexican Californians' ability to shape policy diminished rapidly, and the city government

4. Historian Thomas Sugrue has argued that the infrastructural boundaries established in a city's adolescence often persist even in periods of high immigration and thus dictate city growth. Consequently, future immigrants to Los Angeles arrived in a city already structured by racial inequality. Thomas J Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, N.J., 1996).

came to be dominated, both personally and ideologically, by European Americans. These new leaders embarked on numerous water-related projects designed to bring waste, potable, and agricultural waters into a closed system of pipes.

Although city governors extolled sewers as a universal public benefit, they failed to make that benefit equally available to all residents. Few of the forty-seven miles of pipes in the sewer network by 1891 served neighborhoods where Mexican or Chinese Angelenos lived, and those that did were built of shoddy materials and broke frequently. Nevertheless, surface flow decreased dramatically in these areas, as the city replaced numerous *zanjas* with pipes for the purpose of moving salable water through town for delivery to paying customers. After 1871 the old system of water conveyance disappeared in these neighborhoods, but the city did not immediately provide a replacement. If changing the structure of water conveyance amounted to an ideological conquest, then failing to include specific elements within the community initiated a new relationship of infrastructural inequality.

Pueblo water

Few necessities occupied the minds of Los Angeles residents more than water. Felipe de Neve, the governor of Spanish California, established the pueblo there in 1781 specifically because of the “fertility of the soil” and “the abundance of water for irrigation.” Governor de Neve ordered the first settlers, or *pobladores*, to “open the principal drain, or trench, form a dam, and other necessary public works for the benefit of cultivation, which the community is bound particularly to attend to.”⁵ The construction of this channel, the Zanja Madre, was one of the first two projects undertaken by the *pobladores*. They built a weir of willow poles and diverted the Río Porciúncula into the mouth of the *zanja*, which then carried the water into the pueblo. Only after completion of this project were the livestock and seeds divided up among the settlers.⁶ Over the next one

5. Felipe de Neve, “Reglamento Para el Gobierno de la Provincia de Californias, Aprobado por S. M. en Real Orden de 24, Octubre, 1781,” in “Documents Pertaining to the Founding of Los Angeles,” *Southern California Historical Society, Annual Publication*, 15 (1931), 188.

6. Vincent Ostrom, *Water and Politics: A Study of Water Policies and Administration in the Development of Los Angeles* (Los Angeles, 1953), 29.

hundred years, Angelenos added more and more *zanjas*, creating an elaborate network that conveyed water from the Rio Porciúncula throughout the pueblo for irrigation and consumption. With the exception of a few private water-sellers, who filled containers from private springs and sold them for domestic use, these *zanjas* were the only reliable water source until 1868.⁷

Water allocation and *zanja* maintenance were top public priorities throughout the Spanish and Mexican periods. The Los Angeles *ayuntamiento*, or town council, appointed a water overseer to attend to the *zanjas* and settle disputes. Called the *zanjero*, he became the pueblo's highest-paid government officer. Based on the *zanjero*'s recommendations, the *ayuntamiento*, at various intervals, would call on all citizens to provide labor and financing for repairs, improvements, or additions to the *zanjas*. Further, the *ayuntamiento* and later the city council passed a significant body of law regulating use of the *zanjas* and bringing water under public control. In particular, they made it illegal to do laundry, wash animals, or dispose of offal in the canals.⁸

The guiding principle behind this body of law was that the pueblo itself held the right to the water, and use of it was granted in common to all inhabitants. No individual *poblador* could use water from the Porciúncula in any way that restricted or infringed upon usage by other citizens or the municipality. The belief in communal, or pueblo, water rights endured the transition from Spanish to Mexican rule. Under Mexican rule, water belonged to the pueblo, and its use was common to all. Only after considering reports from the *zanjero*, his committee, and any interested petitioners could the *ayuntamiento* approve irrigation projects, and it demanded, when possible, that such projects be a community endeavor.⁹

7. Beginning in the 1850s, a series of individuals, syndicates, and corporations endeavored to create a delivery network, also in enclosed pipes, for potable water. These schemes met with varying degrees of success until the advent of the Los Angeles City Water Company in 1868. There is no known map of the system, and evaluation of its diligence in delivering water equally to all Angelenos is not currently possible.

8. On March 3, 1836, the *ayuntamiento* declared that "all owners of crops and orchards be invited to appoint a *Zanjero* who must be paid from the products of their soil." LACA, March 3, 1836, vol. 1, pp. 102–103, folder 1. After the United States took control of the city, its hybrid city council decided to pay the *zanjero* from public funds. LACA, June 26, 1847, vol. 4, pp. 350–352, folder 2. Regarding washing in the *zanjas*, see LACA, April 24, 1847, vol. 4, p. 300, folder 1.

9. Michael C. Meyer, *Water in the Hispanic Southwest: A Social and Legal History, 1550–1850* (Tucson, 1984).

Competing visions

Few immigrants from the United States to Los Angeles had any previous experience with a communal rights system for determining water use. The many versions of U.S. water law ultimately concerned the rights of individuals rather than communities.¹⁰ Their experience with water law and their expectations for more technically complex systems of water conveyance led them to denounce Mexican Californians' vision of an adequate water supply and sanitary conditions. Between 1840 and 1870, U.S. immigrants and Mexican Californians repeatedly battled over water, public land, and ownership rights.¹¹

According to historian Donald Worster, contests such as these reflected deeper ideological distinctions regarding nature, progress,

10. Under English common law, which held sway throughout the eighteenth century, property rights equaled a right to "absolute dominion over the land" and empowered an owner to block any use of a neighbor's land in order to protect the "quiet enjoyment" of his own. The nineteenth century witnessed a radical change in water jurisprudence as the accelerated pace of economic development drove jurists away from the common law's anti-developmental tendencies and toward the two new doctrines of riparian rights and the right of prior appropriation, both of which entailed a "a dynamic, instrumental, and more abstract view of property that emphasized the newly paramount virtues of productive use and development." Morton J. Horwitz, *The Transformation of American Law, 1780–1860* (Cambridge, Mass., 1977), 31. Appearing first, riparian rights doctrine held that "the use of water was reserved to those people who owned land bordering streams. Those rights . . . existed only in relationship to each other—as a pool of conditional rights." Under this umbrella, the flow of downstream users could not be diminished by an upstream user. A competing idea, one drawing particularly on the rising emphasis on improvement and progress, evolved as the right of prior appropriation. Donald Pisani defined this as "the legal principle that the first to put water to a 'beneficial use' has the paramount right to the future use of that water." Donald J. Pisani, *Water, Land, and Law in the West: The Limits of Public Policy, 1850–1920* (Lawrence, Kans., 1996), 1. The Mexican city council rejected claims based on priority of use; benefit to the population at large always had the advantage. Riparian rights would also have been dismissed under the Mexican rubric: Since water in the streams was explicitly reserved for communal use, no single landholder could monopolize its use.

11. In 1846 two U.S. immigrants, Richard Laughlin and Samuel Carpenter, claimed that Antonio Coronel (a future mayor of Los Angeles) had caused "serious injury" to their property by unjustly bringing water over their land, through *zanjas* on their property that they could not use, to irrigate his own fields. After Judge of the Water Julian Chavez ruled against them, they appealed to the *ayuntamiento*, which found that the ditches were the "only ones which the party in interest [Coronel] could use without injury to anyone." But rather than let that argument suffice, the body asserted that "the individuals using said ditch [Laughlin and Carpenter] affect drainages which they do not receive and consider themselves owners of an element [water] which under no circumstances should be withheld by two or three persons, with injury to the progress of agriculture in this city." LACA, June 3, 1846, vol. 2, pp. 731–732.

and economy. In his landmark study exploring the relationship between culture and ecology, *Rivers of Empire*, Worster assessed the relationship that humans have worked out with nature over time. He has argued that cultural conflict over water's proper use derived from the conflict between an "Agrarian State Mode" and a "Capitalist State Mode," two very different economic and environmental strategies. Agrarian states "provided an adequate and dependable supply of water to the village, and in turn demanded a payment of tribute in the form of money or crops."¹² Under Spanish and Mexican rule, Los Angeles retained all rights to the water and used it to benefit communal interests. In return, settlers had to pay taxes in order to retain their right to use the land.¹³

This system broke down in capitalist states, which deployed modern technologies to control water for the purpose of economic development. "Water in the capitalist state has no intrinsic value, no integrity that must be respected," Worster has argued, because it becomes "purely and abstractly a commercial instrument."¹⁴ Many European Americans immigrated to Los Angeles with visions of economic grandeur, and most of their ideas depended on commercially available water.¹⁵ Through the early 1870s, however, Mexican

12. Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York, 1985), 37.

13. During the Mexican period (1822–1850), the *ayuntamiento*, or town council, ordered that "all the owners of crops and orchards be compelled to contribute, with their person or an Indian to perform" improvements to the *zanjas*. To achieve this, the committee recommended that "all owners of crops and orchards be invited to appoint a *Zanjero*" and ordered each of the owners to pay the *zanjero* "from the products of their soil." The order clearly applied to all owners, not simply those on the land affected by the improvements, and was strictly enforced. This exemplified the *pueblo* system of communal rights, in that all of the *pobladadores*, in common, bore the responsibility for maintaining the waterway, as they also retained in common the rights to the water flowing in the *zanjas*. LACA, March 3, 1836, vol. 1, 102–103.

14. Specifically, Worster has argued that water in the capitalist state is a "commodity that is bought and sold and used to make other commodities that can be bought and sold and carried to the marketplace." Worster, *Rivers of Empire*, 52.

15. This sentiment appears below in a report to the city from its water officer regarding the potential for salable water to provide substantial revenue for the city while attracting a wave of new business development. City of Los Angeles, "*Zanjero's Report, 1883*," *Los Angeles Municipal Reports, 1879–1896* (Los Angeles, 1885 and 1897), 115; these are separate originals that have been bound together, and the only copy of which the author is aware is in the basement of the Los Angeles Public Library. In addition, literature encouraging immigration to Los Angeles painted the area as one ripe for economic prosperity. Most of these ideas, from concentrated single-crop agriculture to manufacturing, would have required a change in the relationship between people and water along the

Californians retained enough power to preserve the system of communal rights. Until European Americans could dislodge Mexican Californians from this position of power, all their plans would be held at bay. Only by taming Mexican Californian notions of water use could European Americans begin to harness water to promote a modern city and stimulate industrial development. That none of this took place prior to 1870 indicates the persistence of the Mexican Californian communal rights ideology.

Not coincidentally, the flurry of activity involving the transfer of waters from the surface into pipes that began in the 1870s occurred precisely when European Americans took exclusive control of the city council and achieved a more general demographic majority in the region. Their policies ushered in the change from an agrarian to a capitalist state, conquering both nature and Mexican Californian notions of communal rights. Such a victory was not limited to control over the waters flowing throughout the city; it refigured the relationship between people and water along the lines of the capitalist state, leaving the city government to mediate the details. In this sense, capitalizing the state according to a European American vision required that infrastructure be built according to European American specifications, making the finished product a physical manifestation of this vision.

Pipes

Undoubtedly a factor in the ideological contest between Mexican Californians and European Americans over water, the absence of an advanced waste disposal system did not adversely affect the pueblo during the 1850s and 1860s. With only 1,610 residents in 1850, the *zanjas* capably irrigated the villagers' lands and carried most waste out of town, with farmers using the rest for fertilizer. Even as the population grew to 5,728 between 1850 and 1870, the *zanja* system continued to function. Only when the city began to grow more rapidly, between 1870 and 1890, did it begin to produce "far more refuse," reducing "the space available for its disposal."¹⁶

lines Worster has described. Among a vast selection, see especially Lansford Hastings, *The Emigrant's Guide to Oregon and California* (Cincinnati, 1845); William Robert Garner, *Letters from California, 1846–1847* (Berkeley, 1970); and Wilson Hamilton, *The New Empire and Her Representative Men* (Oakland, Calif., 1886).

16. Robert M. Fogelson, *The Fragmented Metropolis: Los Angeles, 1850–1930* (Cambridge, Mass., 1967), 26.

The population doubled between 1870 and 1880, then quintupled to more than 50,000 inhabitants by 1890. Acute droughts in the late 1870s and early 1880s magnified city leaders' concerns regarding irrigation and waste management.

The Los Angeles city council authorized the first three public sewers in April and May of 1873, thereby initiating the process of upgrading Los Angeles infrastructure for waste conveyance and disposal.¹⁷ This project proceeded in fits and starts through the end of the nineteenth century. Early on, these sewers sometimes replaced stretches of the city's open *zanjas* with closed pipes, although all sewers deposited their untreated waste back into a specific section of the *zanja* network further down the line. This practice persisted until 1891, when the city secured public funding for a comprehensive sewer network that would treat some waste for agricultural purposes and dump the rest into the Pacific Ocean.¹⁸

In 1883 C. M. Jenkins, the city *zanjero*, began to replace those *zanjas* still used for irrigation with closed pipes. In his annual report to the city council (dramatically demonstrating the philosophy of Worster's capitalist state), Jenkins argued that, from the "revenue derived from the sale of water the entire expenses of the city government can and should be paid, independent of any, every and all other resources." Purportedly speaking on behalf of the citizenry, Jenkins plainly declared, "we want cotton, wool, paper, and dozens of other sorts of factories here." He told the city council of "men [who] stand ready to pay you enormous sums" for the use of Los Angeles water, which, he claimed, was "sufficient to turn half the spindles of Lowell." Such a scenario would not be possible, according to Jenkins, as long as "our streams, more precious than Paetolian rivers," continued "running to waste in unproductive sand."¹⁹ While Jenkins's industrial dreams failed to come true, the *zanjas* did dry up over the next two decades as underground pipes replaced them throughout the city.

From a use perspective, these pipes, for waste and irrigation, physically symbolized the European American conquest of Los

17. LACA, April 4, 1873, vol. 10, pp. 269–273.

18. Fogelson, *The Fragmented Metropolis*, 32–34.

19. City of Los Angeles, "Zanjero's Report, 1883," *Los Angeles Municipal Reports, 1879–1896*, 115. Although C. M. Jenkins had an European American name, this does not seem to have any special significance; European Americans had begun holding the post in 1854, starting with the service of Henry Cardwell.

Angeles: Closed pipes replaced open *zanjas*. Where this happened, the city made no effort to replace the surface flow, and Angelenos lost access to water formerly available for general use, whether agricultural or otherwise.²⁰ With the laying of these networks, the council's ideological commitments to cleanliness and development took on physical shape.

In an interesting twist, this commitment did not manifest itself equally across the city, as the Mexican American barrio and Chinatown remained without sewerage through the mid-1890s. A comparison of the city engineer's 1891 map of the city sewer system with demographic maps developed by social historians reveals that no

20. While the idea of pueblo rights may have remained operational in a legal sense, it did so under a new set of rules that privileged hygiene and revenue over communal use, changing the meaning of pueblo rights on the ground. Between 1850 and 1881 Los Angeles labored to confirm in U.S. law its right to the corpus of the Los Angeles River. The state legislature supported the city with laws in 1854, 1870, and 1874. In 1870 the legislature amended the city's charter to ensure that the city "shall succeed to all the rights, claims, and powers of the Pueblo de Los Angeles in regard to property"; see William McPherson, *Charter and Revised Ordinances of the City of Los Angeles* (Los Angeles, 1873), 7. In 1874 an amendment to the city charter granted "to said corporation, to be by it held, used, and enjoyed in absolute ownership, the full, free, and exclusive right to all of the water flowing in the river of Los Angeles at any point from its source or sources to the intersection of said river with the southern boundary of said city"; see California, Legislature, *Statutes of California Passed at the Twentieth Session of the Legislature, 1873-1874* (Sacramento, Calif., 1874), 633. Yet the State Supreme Court repeatedly denied these rights to the city in adjudicating claims brought by others; see *City of Los Angeles v. Leon Mac L. Baldwin*, 53 Cal (1879) 469, among others. When the high court reversed itself in 1881, it specifically referred to pueblo rights as a basis for granting the city the right to the entire corpus of the river. The justices declared that, "from the very foundation of the pueblo, in 1781, the right to all the waters of the river was claimed by the pueblo, and that right was recognized by all the owners of land on the stream, from its source, and under a recognition and acknowledgment of such right, plaintiffs' grantors dug their ditches, and, by the permission and consent of the municipal authorities, plaintiffs thereafter used the waters of the river. Can they now assert a claim adverse to that of the city? We think not. The city under various acts of the legislature has succeeded to all the rights of the former pueblo." *Anastacio Felíz v. City of Los Angeles*, 58 Cal (1881) 73, 79. It bears noting, however, that while this seems to confirm pueblo rights, it does so with language that follows the doctrine of prior appropriation. The pueblo had "claimed" the river from its founding and therefore was first in time; moreover, the pueblo had improved the flow and used the water consistently since then. In this sense, Los Angeles had a claim of prior appropriation against any riparian owners. Consequently, while some may argue the use of pueblo rights as a myth, it seems more accurate to say that the meaning of pueblo rights had become somewhat distorted over time and was possibly misunderstood by the high court. Under Mexico, the pueblo meant the community, but under the United States, the pueblo came to mean the corporate entity of the city. As water historian Vincent Ostrom has astutely observed, "no right can have the same meaning under another system of law." Ostrom, *Water and Politics*, 32.



Figure 1. Map “Showing the Varieties and Lengths of Sewers Laid on December 1, 1891,” by J. H. Dockweiler, Los Angeles City Engineer, submitted and bound with City of Los Angeles, *Los Angeles Municipal Reports*, 1891; the map is bound between pages 53 and 54. The unshaded area indicates the Mexican and Mexican American residential district referred to as Sonora Town; the darker lines represent operating sewers, and the small circle just right of the center indicates the plaza.

sewers crisscrossed these enclaves (see Figure 1).²¹ Annual reports from various entities inside the city give no reason to suspect this disparity found a quick resolution after 1891. A substantial majority of the Los Angeles Mexican American community lived in a barrio, locally called Sonora Town, that spread east from Main Street to the Los Angeles River and north from First. Chinatown sat just south of

21. Map “Showing the Varieties and Lengths of Sewers Laid on December 1, 1891,” by J. H. Dockweiler, Los Angeles City Engineer, submitted and bound with City of Los Angeles, *Los Angeles Municipal Reports*, 1891, bound between pages 53 and 54.

the barrio and clustered around Los Angeles, Commercial, and Alameda streets.²² Only two sewers grazed Sonora Town's southern boundary, and one ran through Chinatown's southern edge.

Direct evidence explaining the causes of this asymmetry does not exist. In order to evaluate fairly why Mexican and Chinese Angelenos had unequal access to sewerage, it is essential to identify who had the power to determine when and where a sewer would be built, who was to pay for the work, and on what terms. Ideologically, Mexican Californians' commitment to communal water rights put them at odds with such projects, making an assessment of the degree to which they successfully kept pipes and sewers out of their neighborhoods particularly important. Equally necessary will be a critical analysis of the city council's use of power in shaping these projects, which they generally promoted as universally beneficial. A close examination of city council minutes, the language of sewer ordinances, and various items in the city's annual reports suggests that these questions provoked complicated answers that changed over time.

The city council played a dominant role in establishing the city's first three sewers. Section three of the ordinance establishing the first sewer made it "the duty of the City Attorney to institute legal proceedings for the condemnation of all or so much of said strip . . . as it may be necessary to condemn for the use of said sewer."²³ Instead of eminent domain, the council used special assessments to fund the next two sewers, ordering them to be "constructed at the cost and expense of the several parties owning property along its route."²⁴ If some owners on these two routes refused to pay, the city surveyor and the street superintendent were instructed to make a second effort to collect, after which the city could place a lien against the property of any owner still failing to pay his or her share.²⁵

Given the severity of this language, owner initiative seems an unlikely impetus in the building of any of these sewers. Instead, the city council flexed its muscle, using the tools of authority at its disposal to get the job done. The ordinances requiring special assessments did not grant owners any recourse by way of petition; they simply had to pay or face a lien. Where eminent domain was to be

22. Richard Griswold del Castillo, *The Los Angeles Barrio, 1850–1880: A Social History* (Berkeley, 1979), 139–150; map appears on 147.

23. LACA, April 4, 1873, vol. 10, p. 272.

24. LACA, May 16, 1873, in *ibid.*, 304.

25. LACA, May 23, 1873, in *ibid.*, 299–300.

employed, the council moved to avoid dispute by concluding the first sewer law with a declaration that “all ordinances in conflict with this ordinance shall be . . . hereby repealed.”²⁶ Consequently, the city council determined where in Los Angeles the first sewers would be built and who would foot the bill.

Although poor or working-class brown Angelenos were not deemed worthy of access to this new and “healthful” public service right away, the same was not true for the city’s *californio* elite. The first sewer’s route enclosed Zanja 9 as it passed through the lands of Doña Arcadia de Bandini, Ramona Sepulveda, Agustín Machado, Angel Reyes, and Dionisio Botinin, each the head of an established Mexican Californian family. One could argue that their class position led the city council to invite these *californios* to share in the improved quality of life that European American leaders saw themselves bringing to Los Angeles. The council may have been rewarding them for their acceptance of the new order, courting their support for other ventures, or encouraging their acculturation.²⁷

Yet the power relationship expressed in the establishment of this first sewer muddies the waters. These families would have been accustomed for many generations to using the *zanja*, and, as elite citizens, they would have been among the Angelenos most likely to have defended communal water rights in the past. Although the historical record bears no trace of their opinions, the city’s choice to use eminent domain to condemn these lands implies that the council found other channels impractical. Whereas a special assessment was sufficient to induce European Americans to comply with the new system, the same clearly was not the case with this group of Mexican Californians. Written as it was, the city council shrewdly used this particular sewer ordinance to neutralize the city’s most powerful Mexican Californians; under its provisions, they had no way to contest this law. The conquest achieved in the establishment of sewers made its first mark directly on the lands of those previously in power.

26. LACA, April 4, 1873, in *ibid.*, 272.

27. Historian Richard Griswold del Castillo’s work would largely support such an interpretation. He has argued that the Mexican Californian elite often worked with powerful Anglo leaders to consolidate political power in the city, consequently blending the objectives of both groups and often encouraging Anglo conformity among working-class Mexican Americans. He was particularly critical of the elite in this respect, noting that “Usually the upper classes led in attempts to smooth over cultural and racial differences and to pledge their allegiance to the American flag.” Griswold del Castillo, *The Los Angeles Barrio*, 151–153.

As the sewer-building process became more formal in the late 1880s, issues of money rather than color continued to inform access to sewerage. Much of the city's sewer legislation during this period included provisions for special assessments to pay for projects. Most ordinances establishing sewers mandated that "the assessment to be levied for the collection of the amount necessary to pay and the cost and expense of building and constructing said sewer shall be made upon the property to be benefited thereby, on both sides of said street along the route above described." If property owners along the proposed line "amounting to two-thirds of the frontage thereof" filed a "written remonstrance against said improvement, the same [would] not be further proceeded in or made."²⁸ Many of these projects grew out of petitions submitted by owners of real estate in a given area, suggesting that landowner initiative played the decisive role.²⁹

Under this rubric, few Mexican or Chinese Angelenos would have had the opportunity to request sewers for their neighborhoods. Residents in Chinatown and Sonora Town usually rented instead of owning their own homes.³⁰ Landlords, rather than local residents, would have had to make the investment. Had this been the only means by which the city council established sewers, the combination of class and neglect would suffice to explain unequal distri-

28. LACA, July 3, 1887, vol. 29, p. 231. By 1887 the city clerk filled in the details of individual sewer ordinances on a form that already contained the cited language. Sewers like these came into being after enough landowners along the proposed line signed a petition to the city. Such projects became frequent by the late 1880s. On this day alone, the city council authorized ten other sewers, all laid out on preprinted forms.

29. Although frequent, petitions from owners were not a prerequisite for the use of special assessments to fund improvements. In an act to amend the Los Angeles City Charter, passed on February 20, 1872, the California State Legislature granted the city the power to impose special assessments "upon the petition of a majority of the owners of real estate fronting upon any street or avenue of said city, or upon a vote of two thirds of the Common Council." Consequently, the city could impose its will on owners even if they had not petitioned the council for a project. For the full text of the amendment, which also granted the city the power of eminent domain, see Records of the Common Council, vol. 7, p. 476, Archives of the City of Los Angeles, Records Management Division Offices, Los Angeles City Clerk's Office, Los Angeles. In the mid-1870s the city archival records were split into two groups, one containing ordinances, petitions, etc., and the other minutes of the council meetings.

30. Drawing from my own analysis of the 1880 census, only fifteen of sixty-one households in Chinatown's most crowded block were without lodgers. Of these, it is doubtful that more than a handful actually owned their homes. Census Office, Tenth Census, Manuscript Census of California, 1880, roll 67, pp. 12-17. In Sonora Town, according to Griswold del Castillo, only about 10 percent of the district's 1,000 residents owned real estate. Griswold del Castillo, *The Los Angeles Barrio*, 141-150.

bution. But, just as it had with the first sewer, the city had other means available.

In February 1887 the city council passed a resolution to extend the Main Street sewer. Instead of a special assessment, the council mandated that “the cost of the construction of the said sewer shall be paid out of the general sewer fund of the City of Los Angeles.”³¹ The powers retained by the city to build sewers of its own volition, whether using general funds, mandated special assessments, or eminent domain, afforded the council a flexibility that becomes increasingly important when taking a longer view. As often happens, new physical elements in the relationship between a city and its citizens had institutional components. In Los Angeles, an *ad hoc* sewer committee, the health officer, and the city engineer all made regular reports to the council and offered guidance in sewer construction and maintenance. These reports offer the most direct evidence that the city council did not live up to its ideals when considering sewers in Mexican and Chinese neighborhoods.

Beginning in 1879 and continuing into the 1890s, the health officer and sewer committee frequently lamented the poor state of sanitation and public health where Chinese and Mexican Angelenos resided; indeed, they specifically encouraged and requested the provision of sewerage for these locales. In 1879 public health officer Dr. Walter Lindley declared Chinatown “the crying sanitary evil of Los Angeles.” Although he stated emphatically that an additional sewer to drain Chinatown was “the great need of the city,” his request did not lead to action.³² By 1884 the situation had deteriorated further, as the sewer committee deemed the one sewer that did drain Chinatown “to be thoroughly worthless” because it was “so rotten that in many places the wood had entirely disappeared, leaving only an earthen mould through which the sewer fluid found passage.”³³ In the same report, the sewer committee twice called for new sewers to “afford an outlet for the locality north of Macy Street, and between Alameda and San Fernando Streets on the west and the Los Angeles River on the east,” because “this locality is really in need of a sewage outlet.”³⁴ The geographic region covered in this request

31. LACA, Feb. 21, 1887, vol. 29, p. 497.

32. City of Los Angeles, “Public Health Officer’s Report, 1884,” *Los Angeles Municipal Reports, 1879–1896*, 52.

33. City of Los Angeles, “Sewer Committee’s Report, 1884,” in *ibid.*, 106.

34. *Ibid.*, 107, 111.

lies within the excluded Mexican area indicated on Dockweiler's map (Figure 1).

In the face of these reports, it would be difficult to claim that the council held the opinion that sewers were unnecessary in Chinatown and Sonora Town. Although most sewer legislation grew out of petitions from landowners, the city had the ability, resources, and willingness to step in when it chose. But what dictated when and where that took place? Did European American city leaders deliberately choose to leave the predominantly Mexican and Mexican American neighborhood without sewers, or were these communities actively able to contest infrastructural development that they felt conflicted with their vision of water's value and proper use?³⁵

Considering the period between 1850 and the early 1870s, one could argue that the persistence of the *zanja* system in the predominantly Mexican and Mexican American residential districts (and, for that matter, the whole of Los Angeles) during those years derived from community control. Continuing to adhere to the principle of communal rights during the ensuing years would have led to an objection to sewers. In such a case, the absence of sewers in these neighborhoods suggests that the community got what it wanted and successfully defended its ideals.

Making such an argument about the residents of Sonora Town for the period after 1872, however, presents significant challenges. Although sewers did not appear there, irrigation pipes did, replacing the *zanjas* and effectively eliminating surface flow in the district. If the community had been strong enough to keep unwanted sewers out of their neighborhoods, then it should have been equally able to preserve the *zanjas* in their district. But this was not the case.

Although Mexican Californians in Los Angeles had retained significant power and influence within city government during the 1850s and 1860s, this trend did not continue. Simple demographics played an important part in this change. As the Los Angeles population swelled from 5,278 in 1870 to more than 50,000 in 1890, its Mexican and Mexican American population held fairly steady at

35. The following discussion of community control addresses only Mexicans and Mexican Americans living in Los Angeles. The city's Chinese never possessed sufficient community power in relation to municipal politics to make a similar analysis possible. Although the Chinese actively contested efforts at racially based subjugation in the legal and economic arenas, the public record does not reflect a Chinese influence in the realm of politics or policy.

around 2,200 people, reducing their proportion of the overall population from 37.7 percent to less than 5 percent.³⁶ Nevertheless, residential segregation might have allowed them to exercise power in their individual neighborhoods, and some evidence suggests this would have been possible. In 1870 the city moved to a ward/district system for elections, and by 1880 Mexican and Mexican American Angelenos constituted a majority in one of the city's five wards.³⁷ Yet the residents of this ward, for whatever reason, did not leverage this advantage into political power. In 1872 Cristobal Aguilar, the last Mexican mayor of Los Angeles, lost his bid for reelection. During the remainder of the decade, fewer and fewer Mexican Californians served the city as elected or appointed officials, and none won seats on the city council after 1874. During the whole of the 1880s, in no year did more than two Mexican Californians hold any position whatsoever in the city government.³⁸

If officeholding is one way to shape policy, influence is another. Elite Mexican Californians might have been able to use their connections to shape the location of sewer construction projects, acting paternalistically to protect Sonora Town from losing its traditional relationship with public waters.³⁹ Even if they had wanted to do so, however, record drought combined with land loss substantially eroded elite Mexican Californians' power during the 1860s.⁴⁰

36. These data represent numbers from the census and from Griswold del Castillo, *The Los Angeles Barrio*, 35.

37. Ward Ordinance from LACA, July 30, 1870, vol. 7, pp. 706–707. The state legislature further amended the charter in 1878, expanding the city to five wards. In 1889 the state granted Los Angeles its first home rule charter, and the city adopted a nine-ward system. California State Senate, "Joint Resolution No. 2," Jan. 31, 1889. Griswold del Castillo has compiled data for each ward and found that Mexican Americans comprised over 86 percent of the population in the city's first ward in 1880. Not surprisingly, this ward's boundaries were roughly analogous to those of Sonora Town. Griswold del Castillo, *The Los Angeles Barrio*, 145.

38. Officeholding data come from lists of city officer roles (elected offices, appointed offices, and committees and their members), held at the Los Angeles City Archives in their own notebook.

39. Griswold del Castillo would not agree with this assessment. He has argued that the political representation provided by the Mexican Californian elite was little more than superficial, claiming that "there is no evidence of any effort on their part to ameliorate the pressing social and economic ills that plagued the barrio." Griswold del Castillo, *The Los Angeles Barrio*, 160.

40. Elite Mexican Californians, whose economic power grew out of their vast lands and substantial herds of cattle, spent the 1860s confronting a two-headed monster of record drought and the federal government. The Federal Land Law of 1851 directly attacked the power of the Mexican Californian elite by establishing the Board of Land

By the mid-1870s few of the elite families were still influencing the cultural, social, or economic life of the city. Taking the broad-based decline in Mexican and Mexican American Angelenos' economic power, electoral strength, and presence in city office together with the loss of surface flow to irrigation pipes in the predominantly Mexican residential district, there seems to be little basis for the view that community control was responsible for the absence of sewers in Sonora Town.

In contrast, considerable evidence points to institutional neglect on the part of the city government as the primary cause. Sewers potentially represent a strategy for improving sanitation and quality of life on a universal basis, and no member of Los Angeles city government or commentator in the local newspapers ever suggested that the establishment of sewers should benefit only a particular segment of the citizenry. Nonetheless, the city's own appointed officials also informed the council of specific deficiencies in the system that threatened public health in places where the majority of Chinese, Mexican, and Mexican American Angelenos made their homes. Yet this information, combined with the demonstrated variety of means available to alleviate these problems, did not lead to action by the city government. Even after the electorate voted for several bond measures between 1889 and 1891 to finance a comprehensive sewer system, the city still failed to build in these neighborhoods.⁴¹

Commissioners and requiring verification of all Spanish and Mexican land grants in California. While most successfully defended their ownership, the process was both costly and time consuming. In addition to significant legal fees, the courts forced many of the elite to compensate any squatters who had improved the property while ownership had been in dispute. As their wealth lay in their land and cattle, members of the elite often were forced to sell their land to pay their lawyers and were compelled to turn land over to squatters rather than compensate them monetarily. This loss of land was complicated by the crash in the cattle market in 1857, a devastating drought lasting from 1862 to 1867, and a shift to agribusiness that undermined the value of their pastoral economy. Together, these factors caused the economic and social status of elite Mexican Californians to all but crumble by 1880. Tomás Almaguer, *Racial Fault Lines: The Historical Origins of White Supremacy in California* (Berkeley, 1994), 65–68. See also Lisbeth Haas, *Conquests and Historical Identities in California, 1769–1936* (Berkeley, 1995), chapter 2, and Leonard Pitt, *The Decline of the Californios: A Social History of the Spanish-Speaking Californians, 1846–1890* (Berkeley, 1971).

41. In his 1893 annual report, the city engineer noted that only 965 feet of sewer had been laid using the bonds, at a cost of only \$7,752. Considering that the total amount of bonds authorized exceeded \$1 million, this does not indicate much of an effort by the city to put the bond funds to immediate use. City of Los Angeles, "City Engineer's Report, 1893," *Los Angeles Municipal Reports, 1879–1896*, 34.

Neither the city's ability to pay nor the Mexican community's ability to resist explains the inequality in the sewer system. The agency of city governors alone retains explanatory viability, for the decision rested with them. While using public funds to build sewers where Mexican and Chinese citizens lived might not have been the smartest political decision for elected officials, ignoring their own committees and endangering the city's general public health seems equally unwise. At the very least, their inaction suggests an active unwillingness to provide sewers in these areas that coincided with an equally active program to provide sewers to others. City leaders' ongoing failure to offer sewers in these neighborhoods, especially when informed of the consequences of such inaction, leaves them open to the charge that racial and perhaps class bias factored into their decisions.⁴²

Conclusion

Los Angeles was not alone among rapidly developing cities facing a sewage problem. In Boston, a growing awareness of the link between dirt and disease and an increasing concern for public health led the city to establish sewers beginning in the 1820s and 1830s. Because the work proceeded almost exclusively from petitions and was funded by special assessments, poor property owners and renters had few opportunities to tie themselves into the new networks. "Ironically," Sarah Elkind has written, "while these wards provided the impetus for the adoption of new technologies, the poor had to wait many years before new waste disposal networks reached them."⁴³ The same did not hold true in Chicago, where the sewer system built between the 1850s and the 1880s received the majority of its support from bond revenues and general funds. Even when the board of public works attempted to reduce its obligation to fund new sewer projects in the late 1860s and

42. Writing about New York, but thinking more broadly about urban infrastructure during this period, Matthew Gandy has suggested a possible alternative. He has argued that "the modernization of nineteenth-century cities in Europe and North America was not carried out in order to improve the conditions of the poor but to enhance the economic efficiency of urban space for capital investment." In this framework, the absence of sewers in Sonora Town and Chinatown would derive from those areas not being part of this larger economic plan. Further, Gandy has argued that, "in this sense, the scale of new public works and the pace of technological change masked the persistence of [extant] social and political inequalities." Gandy, *Concrete and Clay*, 37.

43. Sarah S. Elkind, *Bay Cities and Water Politics: The Battle for Resources in Boston and Oakland* (Lawrence, Kans., 1998), 10–18; quotation on 15.

1870s, aldermen representing areas as yet unconnected to the city system successfully defended their constituents against special assessments.⁴⁴

The best evidence available suggests that Los Angeles proved in practice to be more of an administrative hybrid than Chicago or Boston. While the city council appears to have preferred that sewers be built on the basis of petitions and special assessments, it demonstrated a willingness and an ability to mandate and fund construction when and where it saw fit to do so. Although growing at a similar time and on a similar pace as Chicago, and possessing the same power to tax or condemn lands for the purpose of improving public works, Los Angeles city leaders waited twenty years before following Chicago by using public funds to build a comprehensive sewer system.

In both Chicago and Boston, the desire to avoid epidemics and improve public health provided sufficient momentum to overcome race and class biases. This was especially true in Chicago, but it also occurred in Boston where the administrative structure of special assessments limited sewerage in poorer neighborhoods more than the biases of city leaders. No such obstacles existed in Los Angeles. In the absence of concrete evidence suggesting that local residents used their power to resist the advent of sewerage in certain sections of Los Angeles, race and class divisions come to the fore when explaining the absence of sewers where poor Mexican and Chinese Angelenos lived.

In this sense, Los Angeles differed in kind and degree from other cities where race might be expected to play a role in urban development. In New Orleans, according to Craig Colten, the issue of race influenced the priority and speed with which sewers and drainage systems were built, but race did not exclude black neigh-

44. Robin Einhorn, *Property Rules: Political Economy in Chicago, 1833–1872* (Chicago, 1991), 137–140. The board argued that, although sewerage downtown had been a matter of public health and had benefited the whole city, building sewers in outlying areas would serve only local interest. Einhorn has noted that the public works board, composed of business leaders and wealthy private citizens, made its plea only after “Chicago’s most valuable property already had been seweraged with general funds.” *Ibid.*, 140. Chicago’s propertied public works officials therefore believed that projects that enhanced the value of their lands and enterprises generally served the public interest because they improved the overall economic standing of the city. Efforts to extend sewer services outside their area of influence, on the other hand, were seen as serving more limited interests rather than the city as a whole.

borhoods from reaping the benefits of these improvements when the city embarked on a Progressive-influenced, comprehensive, publicly financed campaign to improve infrastructure between the 1890s and 1930s. Although engineering won out on the map, Colten has argued, the location and timeline for implementation did contribute to increasing segregation in residential neighborhoods.⁴⁵ That Jim Crow was already well developed, in terms of official and *ad hoc* policy, by the time New Orleans began its project constitutes an important difference between it and Los Angeles, where the pipes preceded more formal means of segregation and discrimination.

The establishment of the Los Angeles sewer system between 1873 and 1892 marked a turning point in the relationship between the city government, the people, and the environment. A new commitment to modern sanitation and capital development supplanted older notions of maximal use and communal rights. European Americans got sewers while Mexican Californians lost access to previously public waters. Whereas all water had utility under Mexican and Spanish rule, the new sewer system necessarily took some water out of circulation, designated it as off-limits, and judged it to be unfit for use. Elsewhere, the effort to draw revenue from water distribution led many of the remaining *zanjas* into the open mouths of underground pipes. Individual residents who might not have agreed with these changes were forced to comply because public access to these waters had been removed. With the construction of the sewers and the piping of the *zanjas*, European American city leaders inscribed their vision of public philosophy onto the physical landscape of Los Angeles. In this sense, the moment of decision making produced a lasting mark on the city, one that embedded ideas of cultural superiority within the city's basic infrastructure.

Institutional changes joined environmental ones, compounding the defeat suffered by Mexican Californians. Building a separate system of waste disposal entailed establishing a new element in the relationship between city government and the citizens. In particular, European American city leaders argued that sewers were absolutely necessary for a clean and healthy city that offered a good quality of life to its citizens. However, they also deprived Mexican and Chinese Angelenos of this new service, suggesting that brown resi-

45. Craig E. Colten, *An Unnatural Metropolis: Wrestling New Orleans from Nature* (Baton Rouge, La., 2005), esp. 77–107.

dents were not considered qualified to participate in this new relationship. In other words, new criteria of social importance were introduced largely to deny that brown people were entitled to them. Moreover, the city knowingly endangered the health of those residents while dedicating significant energy to protecting the health of others. Unequal distribution effectively drew a color line between those who were and were not entitled to the benefits of a separate waste-disposal network and (according to the ascendant ideology) freedom from disease and epidemic.

Such policies laid the foundation for even more profound discrimination in the years to come. The language of cleanliness has been historically prominent in racial stereotyping and the assigning of racial characteristics. Commonly held beliefs that Mexican and Chinese Americans are “dirty” have served not only as a passive prejudice but also as an active justification for segregation in housing, schooling, and public accommodations. By denying sewerage to Mexican and Chinese neighborhoods, the Los Angeles city government fostered this stereotype, building a new infrastructure for public discrimination. Changes in water use were steeped in ethnic conflict that had ideological, institutional, and infrastructural elements. The racial language manifest in the sewer lines was embedded not only into the earth but also in the institutional structures of the city. The social injustice built into the infrastructure that facilitated the city’s expansion in the twentieth century was therefore inextricably tied to constructing a racial landscape that dictated the social, political, economic, and cultural lives of the city’s 7 million inhabitants a hundred years later.

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