

THE NATURE OF COLONIAL BODIES: PUBLIC HEALTH IN LIMA, PERU, 1535-
1635

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by

Kathleen M. Kole de Peralta

Karen Graubart, Director

Graduate Program in History

Notre Dame, Indiana

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1640

Abstract

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In 1535, Francisco Pizarro founded Lima, Peru in the middle of a coastal desert. Its residents transformed the landscape to build a colonial capital and in the process, the landscape shaped local understandings of race, gender, social status and power. Lima's urban environment created a public health discourse that focused on the relationship between the natural world and human welfare. These discussions emerged in response to the rapid rate of Lima's growth and the challenges it faced, including deforestation, food supply challenges, and the concentration of waste, disease, and illness. I argue that Lima's *cabildo* [municipal government], comprised of just a fraction of the population, seized on these adversities to empower themselves over the majority of the population, promote their interests, and negotiate interactions between humans and their environs. Using the discourse of colonial bodies, health, and the natural world, town councilmen endeavored to control a racially and socially diverse population that surpassed 25,000 people by 1614.

For my family

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CHAPTER 1

INTRODUCTION

WHAT NATURE DOES TO THE BODY: THE LOCAL POLITICS OF HEALTH

1.1 Introduction

The fifteenth century marked the beginning of what became an unprecedented era of global exploration and migration. Waves of conquistadors left the Iberian Peninsula and invaded territories in the Canary Islands, the Americas, India, Africa, China, and the Philippines. Spanish settlers consolidated these lands within the Spanish Empire by founding towns with a *concejo* or *cabildo* [town council]. In a study of sixteenth-century Tenerife, Seville, and Lima, historian Ellen Douglass Howell found that town councils in each location maintained certain continuities with the Iberian model while developing local adaptations.¹ Howell proposes several explanations for these variations; she writes that *cabildos* differed owing to their relative importance to the crown, acquiescence of royal power, and geographic location.² It is the last theory, geographic location that this study of colonial Lima, Peru builds upon.

¹ Ellen Douglass Howell, “Continuity or Change: A Comparative Study of the Composition of the Cabildos in Seville, Tenerife, and Lima,” *The Americas* 24:1 (1967): 33-45.

² *Ibid.*, 45.

Lima's location and surroundings influenced its political organization and the trajectory of its expansion. Here I adopt Linda Nash's approach to colonization in nineteenth-century California, which argues against unidirectional colonization: the idea that Europeans reworked the land to meet their needs. Rather, the transformation worked both ways; humans altered the environment and the environment altered them.³ Francisco Pizarro founded Lima, the City of Kings, in the middle of a coastal desert, bound on the west side by the Pacific Ocean and nestled along the banks of the Rímac River, one of three regional watercourses. Despite this challenging landscape, the influx of African slaves and European and indigenous immigrants outpaced the number of deaths. Consequently, Lima transformed from a small settlement into one of the largest cities in the Americas.

An examination of Lima's early colonial records reveals how the local environment influenced the city's municipal administration. The rapid rate of Lima's growth generated a number of environmental problems common to early-modern cities- deforestation, water pollution, food supply challenges, and the concentration of waste, disease, and illness. I argue that Lima's *cabildo*, comprised of just a fraction of the population, seized on these adversities to empower themselves over the majority of the population, promote their interests, and negotiate interactions between humans and their environs. Using the discourse of colonial bodies, health, and the natural world, town councilmen strived to control a racially and socially diverse population that surpassed 25,000 people by 1614.

³ Linda Nash, *Inescapable Ecologies: A History of Environment, Disease and Knowledge* (Berkeley: University of California Press, 2004), 16.

1.2 Models of Conquest

The majority of the secondary literature emphasizes one of four conquest narratives: military vanquish, evangelization, social/cultural agency, and environmental degradation. The military conquest attributes the success of Spanish invasions to superior military technology such as gunpowder and horses.⁴ The spiritual conquest, perhaps most famously embodied by Robert Ricard's *The Spiritual Conquest of Mexico*, reconstructs colonization as the history of the Catholic Church's efforts to evangelize indigenous populations through missions, religious instruction and performing holy sacraments and services.⁵ Social and cultural historians, by contrast, counter the victor-vanquished narrative by focusing on the experience and agency of Spanish, Indian, and African peoples, including the role of gender and

⁴ John Hemming, *The Conquest of the Incas* (San Diego: Harcourt, Inc., 1970); William Prescott, *History of the Conquest of Mexico* (New York: Modern Library, 2001) and William Prescott, *History of the Conquest of Peru* (Mineola: Dover Publications, 2005).

⁵ Luis Martín, *The Intellectual Conquest of Peru: The Jesuit College of San Pablo, 1568-1767* (New York: Fordham University Press, 1968) and Robert Ricard, *The Spiritual Conquest of Mexico: An Essay on the Apostolate and the Evangelizing Methods of the Mendicant Orders in New Spain, 1523-1572* (Berkeley: University of California Press, 1966).

sexual identity in colonial societies.⁶ Finally, environmental historians emphasize two models of conquest: environmental determinism and declension. Environmental determinism suggests that climate and geography influenced culture, a theory applied broadly from the collapse of the Ancient Maya (circa 750 to 900 C.E.) to the superiority (military, intellectual and genetic) of European societies in global expansion.⁷ Declension theory posits that environmental history is a narrative of failure, decline and decay.⁸ One example of this, Warren Dean's *With Broadax and Firebrand* traces the erosion of Brazilian forests under colonization. Dean writes that Brazil's forests were displaced and erased by a number of ecological invaders,

⁶ Ligia Bellini, *A coisa obscura: mulher, sodomia, e inquisição no Brasil colonial* (São Paulo: Brasiliense, 1987); Cristian Berco, *Sexual Hierarchies, Public Status: Men, Sodomy, and Society in Spain's Golden Age* (Toronto: University of Toronto Press, 2007); James Lockhart, *The Nahuas After the Conquest: A Social and Cultural History of the Indians of Central Mexico, Sixteenth through Eighteenth Centuries* (Stanford: Stanford University Press, 1992); Steve Stern, *Peru's Indian Peoples and the Challenge of Spanish Conquest: Huamanga to 1640* (Madison: University of Wisconsin Press, 1993); Karen Vieira Powers, *Women in the Crucible of Conquest: The Gendered Genesis of Spanish American Society, 1500-1600* (Albuquerque: University of New Mexico Press, 2005); Guillermo de los Reyes, "'Curas, Dones y Sodomitas': Sexual Moral Discourses and Illicit Sexualities among Priests in Colonial Mexico," *Anuario de Estudios Americanos* 67:1 (2010): 53–76; Pete Sigal, ed., *Infamous Desires: Male Homosexuality in Colonial Latin America* (Chicago: University of Chicago Press, 2003); and Zeb Tortorici, "Against Nature: Sodomy and Homosexuality in Colonial Latin America," *History Compass* 10:2 (2012): 161-178; Noble David Cook and Alexandra Parma Cook, *People of the Volcano: Andean Counterpoint in the Colca Valley of Peru* (Durham: Duke University Press, 2007); Karen B. Graubart, *With Our Labor and Sweat: Indigenous Women and the Formation of Colonial Society in Peru, 1500-1700* (Stanford: Stanford University Press, 2007); Lolita Gutiérrez Brockington, *Blacks, Indians, and Spaniards in the Eastern Andes: Reclaiming the Forgotten in Colonial Mizque, 1550-1782* (Lincoln: University of Nebraska Press, 2007); Laura E. Matthew and Michel R. Oudijk, eds., *Indian Conquistadors: Indigenous Allies in the Conquest of Mesoamerica* (Norman: University of Oklahoma Press, 2007), 14.

⁷ Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W.W. Norton & Company, Inc., 2001) and David Webster, *The Fall of the Ancient Maya* (New York: Thames and Hudson, 2002).

⁸ Mark Carey, "Latin American Environmental History: Current Trends, Interdisciplinary Insights, and Future Directions," *Environmental History* 14:2 (April 2009): 221-252 and Lise Sedrez, "Latin American Environmental History: A Shifting Old/New Field," in *The Environment and World History*, ed. Edmund Burke et al. (Berkeley: University of California Press, 2009), 255 and 261.

including cattle ranchers, coffee plantations, mining and slash-and-burn farming.⁹ In a similar vein, colonial environmental histories fault capitalistic enterprises for the Atlantic Slave Trade and destructive mono-crop farming such as coffee, chocolate, bananas, and sugar.¹⁰ In addition to intensive farming, Alfred Crosby's *The Columbian Exchange*, draws our attention to the unregulated spread of invasive plants, animals, and diseases in the New World.¹¹ Crosby's emphasis on ecological imperialism set a precedent in the secondary literature whereby colonial societies and landscapes were portrayed as the victim of countless invasions of microbes, flora, fauna, and humans.¹² These intruders inevitably disrupt and degrade the pristine New

⁹ Warren Dean, *With Broadax and Firebrand: The Destruction of the Brazilian Atlantic Forest* (Berkeley: University of California Press, 1995).

¹⁰ Frederick Upham Adams, *Conquest of the Tropics* (New York: Doubleday, Page and Company, 1914); César Ayala, *American Sugar Kingdom: The Plantation Economy of the Spanish Caribbean, 1898-1934* (Chapel Hill: University of North Carolina Press, 1999); Bradford Barham and Oliver Coomes, "The Amazon Rubber Boom: Labor Control, Resistance and Failed Plantation Development Revisited," *Hispanic American Historical Review* 74:2 (1994): 231-57; Christian Brannstrom, "Coffee Labor Regimes and Deforestation on a Brazilian Frontier, 1915," *Economic Geography* 76 (2000): 326-346; Julie Charlip, *Cultivating Coffee: The farmers of Carazo, Nicaragua, 1880-1930* (Athens: Ohio University Press, 2003); Warren Dean, *Brazil and the Struggle for Rubber: A Study in Environmental History* (Cambridge: Cambridge University Press, 1987); Susanna Hecht and Alexander Cockburn, *The Fate of the Forest: Developers, Destroyers and Defenders of the Amazon* (Chicago: University of Chicago Press, 2010); A.J.R. Russell-Wood, *Slavery and Freedom in Colonial Brazil* (Oxford: Oneworld Publications, 2002); and John Soluri, *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2005).

¹¹ Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport: Greenwood Publishing Group, 2003); Daniel F. Belknap, "Effect of the Spanish Conquest on Coastal Change in Northwestern Peru," *Proceedings of the National Academy of Sciences of the United States of America* 22:111 (2014): 7986-7989; and Elinor G.K. Melville, *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (Cambridge: Cambridge University Press, 1994).

¹² Karl W. Butzer, "Biological Transfer, Agricultural Change, and Environmental Implications of 1492," *International Germplasm Transfer: Past and Present*, Special Publication 23 (Madison: Crop Science Society of America, 1995); Jared Diamond, *Guns, Germs, and Steel*; Paul Kelton, *Epidemics and Enslavement: Biological Catastrophe in the Native Southeast 1492-1717* (Lincoln: University of Nebraska Press, 2007); Charles C. Mann, *1493: Uncovering the New World Columbus Created* (New York: Vintage Books, 2011); and Timothy Weiskel, "Toward an Archaeology of Colonialism: Elements in the Ecological Transformation of the Ivory Coast," in *The Ends of the Earth*, ed. Donald Worster (New York: Cambridge University Press, 1988).

World environment. Yet, the very term ecological imperialism overshadows the significance of the local landscape in shaping colonial societies, a trend that this study seeks to correct.¹³

The corpus of scholarship examining Lima's environmental history is sparse, but among its important contributions are Ricardo Mariategui Oliva's study on the Rímac River, Gilda Cogorno Ventura's examination of Lima's town council, and María Rostworowski's *Recurso naturales renovables y pesca*.¹⁴ All three delve into the relationship between power structures and the natural world. In particular, they portray the city as a managed landscape. Town councilmen are at the center of this narrative, literally reshaping the city with bridges and roads that bear the weight of oxen and carts. I contend that the reality was more nuanced. The landscape shaped how town councilmen understood their role as municipal leaders and they in turn used environmentally oriented legislation to increase their control over non-*cabildo* members.

As the historiography shows, there are numerous ways to approach occupation and accommodation in the New World. Steve Stern adeptly wrote, "From the beginning, there was no single meaning of conquest to those who lived it, even if one restricts the focus to only one side of the encounter between Iberians and

¹³ For another critique of the Crosby model of the Columbian Exchange see Judith Ann Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge: Harvard University Press, 2001), 164-168.

¹⁴ Ricardo Mariategui Oliva, *El Rímac: barrio Limeño de abajo del puente* (Lima: 1956); Gilda Cogorno Ventura "Tiempo de Lomas: Calidades del Medioambiente y administración de recursos en Lima, 1535-1601," in *Lima en el siglo xvi*, ed. Laura Gutiérrez Arbulús (Lima: Pontificia Universidad Católica del Perú, 2005); and María Rostworowski de Diez Canseco, *Recursos naturales renovables y pesca, siglo xvi y xvii* (Lima: IEP, 2005).

Amerindians.”¹⁵ Nevertheless, scholarly treatments of Peru often characterize this period as a three-way struggle among Spanish, Indian, and African people. This emphasis, however, overlooks the environment as a historical actor. By contrast, I show that the intertwined relationships between the local environment, corporeal health and power are central to understanding cities in Latin America.

Lima’s residents faced universal urban challenges such as how to manage waste disposal.¹⁶ In some areas of Europe, easement houses sat in back yards or over running water.¹⁷ Lima’s residents regularly dumped trash and sewage into irrigation canals that ran through the city. To the north, inconsistency and pollution were constant problems for Mexico City’s water supply. Consequently, water became an

¹⁵ Steve Stern, “Paradigms of Conquest: History, Historiography, and Politics,” *Journal of Latin American Studies* 24 (1992): 6.

¹⁶ Andrew B. Appleby, “Nutrition and Disease: the Case of London 1550-1750,” *The Journal of Interdisciplinary History* 6:1 (1975); Maria Helena Barreiros, “Urban Landscapes: Houses, Streets, and Squares of 18th Century Lisbon,” in *Cultural Histories of Early Modern European Streets*, ed. Rita Laitinen, et al. (Leiden: Brill NV, 2009), 11-38; Roger Finlay, *Population and Metropolis: The Demography of London, 1580-1650* (Cambridge: Cambridge University Press, 1981); J.N. Hays, *The Burdens of Disease: Epidemics and Human Responses in Western History* (New Brunswick: Rutgers University Press, 2009), 106-107; and Patrick O’Brian, “Reflections and Meditations on Antwerp Amsterdam and London in their Golden Ages,” in *Urban Achievement in Early Modern Europe: Golden Ages in Antwerp, Amsterdam, and London*, ed. Patrick O’Brian (Cambridge: Cambridge University Press, 2001).

¹⁷ John T. Alexander, *Bubonic Plague*, 70; Harold Eaton Babbitt, *Sewerage and Sewage Treatment* (New York: John Wiley and Sons, 1922), 3; Emily Cockayne, *Hubbub: Filth, Noise and Stench in England 1600-1770* (New Haven: Yale University Press, 2007), 143; and Mary Dobson, *Contours of Death and Disease in Early Modern England* (Cambridge: Cambridge University Press, 1997), 32.

indicator of social status as wealthier residents relocated to neighborhoods with potable water fountains while poorer residents purchased it from porters.¹⁸

To address water and other public health issues related to the environment, *cabildos* in major Spanish cities such as Seville, Mexico City, Santiago and Lima used environmental policies to control how certain groups of people interacted with the environment. In Mexico City, Sharon Glasco found that a network of institutions, including urban planners, health officials and the Church associated diseases with the living conditions of the poor. Therefore, municipal leaders worked to improve public health by addressing urban squalor.¹⁹ In early-modern Lima, town councilmen engaged the urban environment when shaping the contours of colonial bodies. Under the auspices of public health, they advised residents how to eat, drink, bathe, and even what air to breathe, instructions that could vary depending on race and gender.

1.3 *Cabildo* Organization

Cabildos within the Spanish Empire maintained a basic structure and several continuities with Iberian municipalities including its system of classification, membership restrictions, and three types of participation. Iberian law ranked municipal governments and their respective jurisdictions according to their size and

¹⁸ Arnold J. Bauer, *Goods, Power, History: Latin America's Material Culture* (Cambridge: Cambridge University Press, 2001), 134; V. Bennet, S. Davila-Poblete, M. Nieves Rico, eds., *Opposing Currents: The Politics of Water and Gender in Latin America* (Pittsburgh: University of Pittsburgh Press, 2005); Frederick Bowser, *The African Slave in Colonial Peru*, 108; Jean-Marc Fournier, "Inequalities and Conflict: Water in Latin American Cities," in *Globalized Water: A Question of Governance*, ed. Graciela Schneier-Madanes (New York: Springer, 2014), 219-221; Sharon Bailey Glasco, *Constructing Mexico City: Colonial Conflicts over Culture, Space, and Authority* (New York: Palgrave MacMillan, 2010), 78-84; and Henry Louis Gates, Jr., *Black in Latin America* (New York: New York University Press, 2011), 95.

¹⁹ Sharon Bailey Glasco, *Constructing Mexico City*, 50.

significance. These labels were important, because the largest category, municipality, entailed more power and privileges than the lower rankings of diocesan or village. Municipalities employed the greatest number of officers, upwards of twenty versus the village's three or four. Municipalities also used a unique coat of arms that symbolized its political authority on flags, buildings and official documentation.

Lima ascended rapidly to the municipal category, but other towns only reached this level with special favors. In November 1536, the Crown approved Lima's coat of arms featuring three crowns for the biblical wise men, the Star of Bethlehem, the Spanish imperial eagle, and the monarchs' initials "I" and "K."²⁰ Municipal status, however, was not always granted easily. If a settlement's significance went unrecognized, town councilmen could petition the Crown for an upgrade. Significant gestures such as a large donation to the Crown, an act of loyalty, or military service could be leveraged to elevate a town to a city.²¹

Another shared feature among Iberian town councils is the exclusivity of its participants. *Cabildo* members and most of their officers (those who were not royally appointed) came from a group of local, landowners called *vecinos*. Dating back to fourteenth-century Castile, the title of *vecino* indicated important social and political standing. In addition to urban plots, most of Lima's early *vecinos* received *encomiendas* (grants of indigenous labor tribute) and royal concessions such as partial

²⁰ Enrique Torres Saldamando, "El escudo de la ciudad de Lima," in *Monografías históricas sobre la Ciudad de Lima*, vol.1 (Lima: Consejo provincial, 1945), 321 and M. González de la Rosa. *Monografías históricas sobre la ciudad de Lima* (Lima: Gil S.A., 1935), 340.

²¹ John Preston Moore, *The Cabildo in Peru Under the Hapsburgs: A Study in the Origins and Powers of the Town Council in the Viceroyalty of Peru, 1530-1700* (Durham: Duke University Press, 1954), 61.

exemptions from royal taxes, customs duties, and sales taxes for a ten-year period.²²

The municipal government classified the vast majority of its residents as *moradores* [inhabitants], those who did not own land and rented rooms or quarters. This term even applied to merchants who lived and worked in their shops. The most important distinction between the two groups was that *moradores* could not participate in the town council.²³

Three types of members made up the town council: the general assembly, elected officers, and royal officers. A town's *vecinos* automatically became *cabildo* members and their presence was required at every *cabildo* meeting. In Lima, the *cabildo* met on average once a week to discuss municipal matters and review petitions. If Lima's municipal government followed Seville's example, then members excused themselves during discussions or decisions posing a conflict of interest.²⁴ However, *vecinos* did not vote on proposals. Rather, this responsibility fell on the shoulders of *cabildo* officers.²⁵

²² Almost all of the men whom Pizarro appointed to Lima's first council received a plot within the *traza*. These plots occupied the most desirable locations, in the blocks that boarded the central plaza. Two councilmen, the *alcalde* Juan Tello and the royal agent Cristóbal de Peralta did not receive urban *solares*, but obtained *encomiendas* outside of Lima. Peralta accepted an *encomienda* in the coastal district of Pisco. Juan Tello de Guzmán may have received an *encomienda* in Peru, but by 1607 he had served as *teniente general* of the Philippines and was battling exile for an illegal execution performed during his tenure. John Preston Moore, *The Cabildo in Peru*, 50; Mamerto Castillo Negrón, *Monografía de Pisco* (Lima: Cía de Impresiones y Publicidad, 1947), 80; Newberry Library, Edward E. Ayer Manuscript Collection, Real Audiencia Chancillería, *Testimonio de Autos Seguidos en 1606 por don Juan Tello de Guzmán, Teniente General de las Indias Filipinas* (1606); Isirio García Tato, *Las encomiendas gallegas de la orden military de San Juan de Jerusalén* (Galicia: Consejo Superior de Investigaciones Científicas, 2012), 676.

²³ John Preston Moore, *The Cabildo in Peru*, 15-16.

²⁴ Deborah Kirschberg Schenck, *El Concejo de Sevilla en la Edad Media (1248-1454): organización institucional y fuentes documentales* vol. 1 (Sevilla: Ayuntamiento de Sevilla, 2002), 168.

²⁵ *Ibid.*, 169.

Lima's *cabildo* elected leaders to a one-year post beginning each January. Not every *vecino* could become an officer. The municipal government restricted this role to men with social and economic distinction. During the medieval era, Seville's *cabildo* described officers as "*el más perteneciente*" [the most belonging] "*el más destacado*," [the most outstanding]; these descriptions implied that a person was wealthy enough not to corrupt municipal activities for personal gain. Similarly, Lima's records used the term, "*desinteresado*," [selfless] to describe functionaries. Offices were also restricted to elite men such as knights, *hidalgos* and citizens.²⁶ Geographic, social, and economic qualifiers created a self-perpetuating oligarchy at the highest levels of municipal government.²⁷

The Crown reserved the right to appoint royal officials for the most significant positions such as *alcaldes mayores* [judges] and the *alguacil mayor* [head bailiff].²⁸ The *alcaldes mayores* headed the town council. They ran meetings and functioned as the highest judicial authority in the city.²⁹ The *alguacil mayor* was the utmost enforcer of municipal law. In Lima, Queen Juana named Francisco Pizarro *alguacil mayor* of Lima in perpetuity. After his death, secular and royal officials took advantage of lapses in transatlantic communication to appoint their own candidates.

Lima's corpus of officers always included at least two *regidores* [aldermen] and *alcaldes* [mayors] and multiple royal agents. The *cabildo* also selected a number of other officials such as [judges] who kept a roster of citizens and ruled in economic

²⁶ Ibid., 189.

²⁷ Ibid.

²⁸ Ibid., 175.

²⁹ Ibid., 209.

disputes, *almotacenes* [market clerks] oversaw marketplace practices, *alarifes* [master builders] inspected public works, *veedores* [inspectors] reviewed the practices of public officials, and the *mayordomo* [superintendent] served as the municipal treasurer and bursar.³⁰ The types of offices in any one particular *cabildo* varied from location to location. Overall, however, Howell divides their powers and functions into three categories: those who presided over meetings, those who drafted legislation, and those who defended the public interest.³¹

Lima's town council exported the basic structure of the Iberian *cabildo*, but its membership followed a distinct trajectory. To begin with, Pizarro took advantage of a legal loophole allowing him to choose every single *cabildo* officer in 1535.³² Pizarro relocated the Spanish *vecinos* of Jauja and San Gallán to Lima. Therefore, Jauja's retiring officers (San Gallán did not yet have a functioning *cabildo*) should have elected the new officials for the incoming year.³³ But by the time Lima's inauguration took place in January 1535, the contracts of the municipal officers had expired,

³⁰ John Preston Moore, *The Cabildo in Peru*, 18, 27, 112.

³¹ Deborah Kirschberg Schenck classifies Seville's *cabildo* members into seven separate categories. The first group, the major officials, encompassed the *alcaldes mayores*, *alguacil mayor*, and the royal scribe. The second set, town council commissions, included the *procurador mayor*, *procurador de tierras*, *procuradores en Cortes*, *tenientes de las tablas del sello* y *teniente de los privilegios*, the third, organs of control, referred to the *jurados* [judges] and *fieles ejecutores*. The fourth group, justice officials referred to *alcaldes ordinarios*, *alcaldes de tierra*, *escribanos*, *letrados*, *abogados de los desvalidos*, *procuradores de los presos de la cárcel*, *carcelero*, *escribano de la cárcel*, *verdugo* y *trompeta de la justicia*. The fifth group, offices related to the *hacienda*, referred to the *mayordomos*, accountants, and accountant's scribe. The sixth group, economic offices, included the *fieles*, *almotacenes*, and their scribes. Finally, the last category, various officials referred to the *obrero mayor*, *alarifes*, *aposentadores*, *troteros*, *porteros*, *pregoneros*, *músicos*, *médicos*, *grámaticos* y *artesanos*. *El Concejo de Sevilla*, 172-173; and Ellen Douglass Howell, "Continuity or Change," 34.

³² Ellen Howell, "Continuity or Change," 39.

³³ Juan Bromley, *La fundación de la Ciudad de los Reyes*, (Lima: 1935), 125 and Concejo de Lima, *Libros de Cabildos de Lima*, ed. Bertram T. Lee (Lima: Torres-Aguirre-Sanmartí & Cia S.A., 1935), 1:14.

negating their ability to hold elections.³⁴ The royal scribe, Domingo de la Presa, recorded Pizarro's explanation:

Jauja's town council was obligated and should have named [the officials] last year in 1534. They did not elect *alcaldes* and *regidores* for this city [Lima] for this year, 1535, because 1534 has already passed and their offices have expired and they cannot hold the election.³⁵

The timing of Lima's foundation allowed Pizarro to choose every single municipal officer in 1535.³⁶

From the combined group of *vecinos*, Pizarro appointed eleven men to Lima's town council, many of whom had backed Pizarro's plan to move from the central highlands to the coast.³⁷ For example, Pizarro reinstated two of Jauja's *regidores*, Garcia de Salcedo and Alonso Riquelme as Lima's first *regidores*.³⁸ Salcedo and Riquelme both testified on behalf of the move, and when the inauguration concluded, they received two plots of land in the city center.³⁹ Other *cabildo* officials included Nicolás de Ribera and Juan Tello as *alcaldes* and Pizarro's choices for Royal agents: Rodrigo Maçuelas, Cristóbal de Peralta, Alonso Palomino, Diego de Agüero, Nicolás

³⁴ Ellen Howell, "Continuity or Change," 35.

³⁵ Por cuanto el regimiento de la dicha ciudad de Jauja como eran obligados y lo debían hacer el año pasado de quinientos e treinta cuatro años/ no nombraron para este año de quinientos e treinta y synco [sic] *alcaldes* e *Regidores* para la dicha ciudad e por [h]aver [sic] como ha pasado el dicho año de quinientos e treinta e quatro [sic] años han espirado sus oficios e no puedan hacerla dicha eleçion [sic]. Here the term "regimiento" is translated as town council. John Preston Moore claims that the municipal council was a closed corporation that went by a variety of terms including *cabildo*, *justicia*, *regimiento*, and *ayuntamiento*. John Preston Moore, *The Cabildo in Peru*, 17 and Concejo de Lima, *Libros de Cabildos*, 1:15.

³⁶ The Capitulation of Toledo [1529] granted him the authority to found new towns and establish the first *cabildo*.

³⁷ Concejo de Lima, *Libros de Cabildos*, 1:7, 8.

³⁸ Ibid., 1:12-14 and Bernard Moses, *The Spanish Dependencies in South America* (Cambridge: Cambridge Scholars Publishing, 2009), 1:157.

³⁹ Juan Bromley y José Barbagelata, *Evolución Urbana de Lima*, 51.

de Ribera jr. [*el mozo*] and Diego Gavilán.⁴⁰ Each magistrate received a staff of office, symbolizing his authority.⁴¹ Although normal municipal elections were held the following year, Pizarro, in his capacity as city founder, selected three aldermen in perpetuity, an arrangement that lasted until political opponents murdered him in 1541.⁴²

Lima's *cabildo* officers carried out distinct roles when compared to other municipal governments. In her study of sixteenth-century *cabildos*, Howell notes that unlike Tenerife and Seville, Lima did not have an *alcalde mayor*, the official who presided over the *cabildo* and served as a judge. Instead, Lima's *corregidor* [judge appointed by the king] performed this task. There were also two regular *alcaldes* [judges] chosen by Pizarro.⁴³ Another variation, in the sixteenth century the *alguacil* and *fiel ejecutor* [loyal executor] did not sit with the council, but royal agents such as the *veedor* and treasurer acted and voted alongside *regidores*.⁴⁴

In addition to the offices present in Lima's town council, the *cabildo* varied in how it responded to the colonial landscape. *Cabildo* members appropriated the language of health and the body to bolster the economic, social, and political power of its members over the population at large, a racially and socially diverse landscape of Indigenous, European, and African-descent peoples. Environmental policies

⁴⁰ Cristóbal de Peralta was not physically present at the time of his appointment, and he accepted the post in March. One of their first decisions as councilmen was to accept Pizarro's nomination of Domingo de la Presa as the municipal scribe with an annual salary of 200 gold pieces. Concejo de Lima, *Libros de Cabildos*, 1:16.

⁴¹ Juan Gunther Doering, *Lima*, 59.

⁴² Bernabé Cobo, *Historia de la Fundación*, 28-29, 34, 35.

⁴³ Ellen Howell, "Continuity or Change," 37.

⁴⁴ *Ibid.*, 41.

infiltrated almost every aspect of municipal administration including laws and ordinances, taxes, public labor, public works, civic celebrations, marketplace activities, and food and drink consumption.

1.4. Early-Modern Disease Theories

Iberian medical theories were deeply rooted in Middle Eastern, Iberian Islamic, and European Christian medical practice. Furthermore, the proliferation of Arabic translations of Ancient medical texts such as the writings of Hippocrates and Galen facilitated the translation of this knowledge into vernacular publications across Europe. In colonial Lima, the three most influential explanations for disease focused on humors, miasmas and sin.

According to the Hippocratic theory of four humors, health depended on a never-ending balancing act between the proportions of blood, phlegm, black bile, and yellow bile in the body.⁴⁵ The level of those fluids varied from person to person and resulted in four types of human “complexions” (a combination of phenotype, personality, and character): sanguine (hot and moist), melancholic (cold and dry), phlegmatic (cold and moist), and choleric (hot and dry). Because a person was naturally disposed towards one of these categories, it represented an individual’s baseline of personal health. Essentially, the interaction among the four humors determined a person’s health, personality, and behaviors. When the humors mixed harmoniously, the body stayed healthy, however they blended discordantly, then

⁴⁵ Hippocrates, *The Medical Works of Hippocrates*, ed. John Chadwick, et al. (Oxford: Blackwell, 1950) and Jacques Joussna, *Greek Medicine from Hippocrates to Galen: Selected Papers* (Leiden: Brill, 2012).

illness ensued.⁴⁶ The excess or shortage of any one component created an imbalance that led to illness.

A person's basic constitution informed which environmental interactions were either positive or negative. Moreover, the environment determined the body's humors at conception and influenced their levels over the course of a lifetime. For example, a sanguine person benefited from foods that matched his nature. If the humors became unbalanced, treatment involved regulating their levels via bleeding, starving, purging, diet, or consuming special medicines and plants. When ill, a sanguine person might eat those foods that counteracted his imbalance. So, if he found himself phlegmatic he might concentrate his diet on hot and dry foods. Opposite influences were key to reestablishing the equilibrium of the body's vital force.

Humoral theory's relationship to the environment provided the foundation for race theory in colonial Latin America. In other words, environment maintained a symbiotic relationship to race, and race determined both physical and intellectual characteristics. So for example, the New World produced indigenous bodies that early-modern writers cast typed as phlegmatic, lazy, gullible, and indolent because the landscape did not stimulate them mentally or physically. By contrast, the sanguine, hardworking, innovative Spaniard came from a more challenging Mediterranean climate. Less easily categorized were people of African descent, whose black skin acquired both humoral and biblical explanations. On the one hand, humoral theory held that the sun dried up the body creating bilious, dark hue to the

⁴⁶ Guido Majno, *The Healing Hand: Man and Wound in the Ancient World* (Cambridge: Harvard University Press, 1991), 178.

flesh.⁴⁷ On the other hand, some writers interpreted black skin as the biblical Curse of Ham.⁴⁸

The unbreakable link between environment and body was so powerful that the idea of Spanish blood, or *limpieza de sangre* [blood purity] played a pivotal role in distinguishing the Spanish race.⁴⁹ Blood purity embodied socio-religious qualities and carried moral and spiritual meaning.⁵⁰ Therefore, to be Spanish was to be Christian, and this association became extremely important during the Spanish Inquisition, which sought to try and punish false converts. Spaniards defined themselves simultaneously as a race, a religion, and an environmental construct.

Gender was attributed to humoral theory as well. Male and female bodies contained different humor levels and that changed with bodily functions such as menstruation, lactation, sweat, tears, semen, and internal heat.⁵¹ Of all these elements, heat was one of the most important in determining gender categories: men were hot and dry to the cold and moist female.⁵² Heat was associated with strength whether manifested in intellectual, physical or moral terms. In the eyes of society, the lack of

⁴⁷ Rebecca Earle, *Body of the Conquistador*, 191.

⁴⁸ *Ibid.*, 193.

⁴⁹ David Sartorius, "Colonial Transfusions: Cuban Bodies and Spanish Loyalty in the Nineteenth Century," in *The Cultural Politics of Blood*, ed. Kimberly Anne Coles, et al. (New York: Palgrave MacMillan, 2015), 242.

⁵⁰ Max. S. Herring Torres, María Elena Martínez, David Nirenberg, eds., *Race and Blood in the Iberian World* (Zurich: Lit, 2012), 1.

⁵¹ Breast milk and semen were both formed from blood. Jean E. Feerick, *Strangers in Blood: Relocating Race in the Renaissance* (Toronto: University of Toronto Press, 2010), 21 and 62.

⁵² Tamara Harvey, *Figuring Modesty in Feminist Discourse Across the Americas* (Aldershot: Ashgate Publishing Limited, 2008), 65.

heat in women (and in Indians as discussed above) made them weaker, more emotional, and fed into cultural constructions of inequality.⁵³

The second disease theory revived during this period was the miasmatic theory of disease. Miasma theory bound corporeal health to the environment, and specifically its airs. Air purity became extremely important in evaluating the suitability of a particular location for human habitation. Any foul-smelling air, called a miasma, spread poisonous vapors through the atmosphere. Human contact with those vapors caused sickness.⁵⁴ Fetid smells possessed extraordinary properties such as the ability to tarnish metal and discolor linens.⁵⁵ The damage miasmas inflicted externally increased once inside the human body. Vapors deteriorated the organs, multiplied, and spread to other people.⁵⁶ In colonial Lima, miasmas were the most common explanation for illness and epidemics. Miasmas festered and spread from both supernatural and quotidian sources including an inauspicious alignment of the stars, volcanic eruptions, earthquakes, and daily accumulations of sewage and trash.⁵⁷

Municipal responses to noxious airs often served the best health interests of the people, even if the reasons for doing so were slightly misguided. Contemporary beliefs held that foul smells corrupted air, and tanners, fishmongers, household

⁵³ Susan Socolow, *The Women of Colonial Latin America* (Cambridge: Cambridge University Press, 2015), 75; and Ana María Presta, “Doña Isabel Sisa, a Sixteenth-Century Indian Woman Resisting Inequalities,” in *The Human Tradition in Colonial Latin America* (Lanham: Rowman & Littlefield Publishers, Inc., 2013), 47-49.

⁵⁴ Lois Magner, *A History of Infectious Diseases and the Microbial World* (Westport: Praeger, 2009), 19.

⁵⁵ Emily Cockayne, *Hubbub: Filth, Noise and Stench*, 18.

⁵⁶ Jane L. Crawshaw, *Plague Hospitals* (Surrey: Ashgate Publishing Limited, 2012), 28.

⁵⁷ Carlo M. Cipolla, *Miasmas and Disease: Public Health and the Environment in the Pre-Industrial age* (New Haven: Yale University Press, 1992), 4.

refuse, chamber pots and street filth were viewed as counterproductive to public health.⁵⁸ Town councilmen tried to limit exposure to industrial and human waste. One common form of removal involved sanitation crews that scraped the streets clean with mule-drawn carts. The goal was to get bad smelling things like dung and trash outside of the city. Thus, despite the limitations of miasma theory, municipal leaders implemented many constructive health policies.

Doing the right thing for the wrong reasons applied to other public health policies. A similar phenomenon occurred with the sick-poor who were shut away in urban hospitals. Hospital walls trapped and contained harmful miasmas. Moreover, the wretched poor, who found themselves unable to seek private health care, were eased into a controlled space that shielded them from an unpredictable landscape. Viceroy Andrés Hurtado de Mendoza believed miasmas' effects to be so powerful that he called for two new hospitals in Cañete (a district in southern Lima). He provided instructions to build facilities where indigenous and Spanish patients could separately and differentially Spanish facility escape toxic odors.⁵⁹

The third prevalent disease theory in colonial Latin America involved the balance between religion and health. A clean conscience fueled a vital body. By contrast, sin begot sickness. Although spiritual diagnoses for illness were declining in this period, many medical professionals still believed that it was if not the root of

⁵⁸ Kristy Bowers, *Plague and Public Health in Early Modern Seville* (Rochester: University of Rochester Press, 2013), 33.

⁵⁹ University of Notre Dame Special Collections, "Testimonio de la fundación de las haciendas que comprende la jurisdicción de la Villa de Cañete," f. 14v in *Títulos de la hacienda nombrada San Juan Capistrano* (15 October 1720).

illness, certainly it was part of the problem.⁶⁰ According to this theory, God deliberately inflicted humans with deformations and illness as punishment for immoral behavior.⁶¹ Embracing religion, accepting responsibility for sin, and making amends through penance if necessary went hand in hand with recovery.

Present, but less well understood, was the correlation between faith and mental illness. Like plague victims, the mad were deposited in healthcare facilities. Inside, they lived in separate quarters. In fact, the sheer number of hospitals and psychiatric wards in Spain prompted the French philosopher Jean Bodin to muse that the Mediterranean climate and geography triggered higher rates of insanity.⁶² Unfortunately, it is difficult to discern what “madness” meant in colonial Lima, as the term “*loco*” [crazy] is ambiguous. As one case in sixteenth-century Germany shows, even neurological disorders such as epilepsy were categorized under this term.⁶³

Contemporary pathogen discourses understood disease as a corporeal problem triggered by environmental and religious factors. This influenced how medical professionals, writers, and urban elites understood both their environs and their bodies. Even as universities changed their medical programs to incorporate new ideas and knowledge, classical ideas of illness remained prevalent in Europe and the

⁶⁰ Graham A. J. Ayliffe, Mary P. *English Hospital Infection: From Miasmas to MRSA* (Cambridge: Cambridge University Press, 2003), 2; Jane L. Crawshaw, *Plague Hospitals*, 28 and Rebecca Earle, *Body of the Conquistador*, 111.

⁶¹ Mary Ann Lund, *Melancholy, Medicine and Religion in Early Modern England: Reading the Anatomy of Melancholy* (Cambridge: Cambridge University Press, 2010), 113.

⁶² H.C. Erik Midelfory, *A History of Madness in Sixteenth-Century Germany* (Stanford: Stanford University Press, 1999), 41.

⁶³ Nicknamed the “falling sickness.” Ibid., 33.

Americas until the discovery of germ theory in the nineteenth century.⁶⁴ It is against this backdrop that Lima's municipal elites crafted a public health platform.

1.5 *Cabildos* and the advent of Public Health in Latin America

Although “public health,” as a term came later, from the earliest days of a municipality's existence, the *cabildo* concerned itself with *salud* [health] matters. What can now be understood as a public health agenda was actually a broad range of laws, ordinances, services, and campaigns designed to promote sanitation and wellness. Lima's town council began discussing health from the moment of foundation; *cabildo* records describe city's healthy air and landscape and some of the earliest legislation limits tree felling.

The idea that public health began at such an early point in colonial Latin America runs counter to the traditional narrative that casts public health with the

⁶⁴ Michele Clouse, *Medicine, Government and Public Health in Philip II's Spain: Shared Interests, Competing Authorities* (Surrey: Ashgate Publishing Limited, 2011), 46.

Bourbon Reforms or the advent of nation states following the wars of independence.⁶⁵

Heather McCrea, for one, examines how the largely indigenous state of Yucatán was folded into a program of state formation through public health policies. Creole elites characterized indigenous Mayans as “backwards” and redefined citizenship in nineteenth-century Mexico by implementing obligatory healthcare reforms. Mexico City elites wished to subject central and regional populations to a modernizing agenda, one that often meant changing how people understood and received critical healthcare services.⁶⁶

Pamela Voekel’s work on the Mexican enlightenment first posited the relationship between church, state and health in the eighteenth and nineteenth centuries. Voekel argued that as Mexico shifted from a monarchical society to an independent republic, Bourbon bureaucrats strengthened the state’s jurisdiction by limiting the powers of the church and clergy. The state did this by attacking baroque practices: forcing citizens to bury their dead in suburban cemeteries and stopping

⁶⁵ Claudia Agostoni, *Monuments of progress: modernization and public health in Mexico City, 1876-1910* (Thousand Oaks: Sage Publications, 1998); Carlos Bustíos Romani, *La cuestión demográfica y la planificación familiar en la historia de la salud pública peruana: 1821-2005* (Lima: Editorial CONCYTEC, 2011); Carlos Contreras, *Sobre los orígenes de la explosión demográfica en el Perú, 1876-1940* (Lima: Instituto de Estudios Peruanos, 1994); Miguel Angel Cuenya, *Cabildo, sociedad y política sanitaria en la ciudad de Puebla, 1750-1910* (Puebla: Consejo Nacional de Ciencia y Tecnología, 2003); Moramay López-Alonso, *Measuring up: a history of living standards in Mexico, 1850-1950* (Stanford: University Press Stanford, 2012); Jorge Lossio, *Acequias y gallinazos: salud ambiental en Lima del siglo XIX* (Lima: Instituto de Estudios Peruanos, 2003); John Raymond McKiernan-González, *Fevered Measurers: public health and race at the Texas-Mexico border, 1848-1942* (Durham: Duke University Press, 2012); Eduardo Menéndez, *Poder, estratificación y salud: análisis de las condiciones sociales y económicas de la enfermedad en Yucatán* (México City: Centro de Investigaciones y Estudios Superiores en Antropología Social, 1981); América Molina del Villar, *La Nueva España y el matlazahuatl, 1736-1739* (Mexico City: Centro de Investigaciones y Estudios Superiores en Antropología, 2001); Allyson M. Poska, “Public Health, Peasant Bodies and the Spanish Colonization of Patagonia,” *Social History of Medicine* 25:2 (2011).

⁶⁶ Heather McCrea, *Diseased Relations: Epidemics, Public Health and State-Building in Yucatán, Mexico, 1847-1924* (Albuquerque: University of New Mexico Press, 2011), 5.

ostentatious funeral processions. Mexico's ruling class claimed they did this to return austerity to the church and promote public health.⁶⁷

Adam Warren builds on Voekel's work by using the Bourbon era to highlight Peruvian medical reforms. Warren reveals how Creole doctors implemented new policies and programs that were distinct from similar efforts in Spain and the rest of Europe at the time.⁶⁸ Primarily, Peruvian elites used the Catholic Church as the infrastructure through which to distribute new medical care and knowledge. My research shows that the emphasis on public health and city planning was a continuous effort that carried over from the early colonial period. In the case of Lima, a public health agenda emerged with the city's foundation. This is not to say that public health meant the same thing in the sixteenth century as it did during later periods. However, some guiding principles remained constant: protecting the welfare of the people; negotiating the relationship between people and their environs; and reinforcing the authority of municipal leaders.

1.6 The Foundation of Lima

The military and political momentum building up to Lima's foundation began in 1524 with early explorations into South America. While stationed in present-day Panama, governor Pedrarias de Avila allowed a group of men, led by Francisco Pizarro and Diego de Almagro, to explore northwestern Colombia. Additional

⁶⁷ Pamela Voekel, *Alone Before God: The Religious Origins of Modernity in Mexico* (Durham: Duke University Press, 2002), 74.

⁶⁸ Adam Warren, *Medicine and Politics in Colonial Peru: Population Growth and the Bourbon Reforms* (Pittsburgh: University of Pittsburgh Press, 2010).

expeditions along the Pacific coast led to the discoveries of modern-day Ecuador and Peru. Following these encounters, Pizarro returned to Spain seeking permission to invade and colonize the western coast of South America.

When Francisco Pizarro returned to Iberia in 1528 he described his findings to the Crown in a series of meetings that culminated in the Capitulation of Toledo [1529]. The capitulation established the legal framework Pizarro needed in order to found towns within “New Castile,” a territory that began at Tunipampa [present-day Tomebamba], Ecuador and ran 200 leagues south. Queen Juana named Pizarro as New Castile’s governor, captain-general, *adelantado*, and *alguacil mayor* for life.⁶⁹ This accord also granted Pizarro the right to assign *encomiendas* of Indians, receive an annual salary, and build fortifications.⁷⁰ At the time, Pizarro’s partner-in-discovery, Almagro, received far fewer recognitions: the title of nobility and commander of Tumbez and Luque. Years later, King Charles I granted him the governorship of New Toledo, which in theory extended beyond the southern border of New Castile into what is today southern Chile, Argentina and Patagonia.

Pizarro founded several sites before establishing Lima as a regional capital. His achievements included three Spanish towns, San Miguel de Piura (1532), Jauja (1533), and Cuzco (1533), and two military bases at Tumbez (1532) and San Gallán (1534). The Spanish favored Jauja for its central location between the Pacific Ocean and Cuzco. Nevertheless, by 1534 Francisco Pizarro began telling a different story, one that portrayed Jauja as inhospitable. The documentary record blames the problem

⁶⁹ William Prescott, *History of the Conquest of Mexico & History of the Conquest of Peru* (New York: Cooper Square Press, 2000), 885.

⁷⁰ Ibid.

on infertile soil and a cold climate. Another factor may have been the rival settlements of Diego de Almagro in Quito and Trujillo. Whatever the reason, on December 4, 1534 Pizarro nominated three men, Ruiz Díaz, Juan Tello, and Alonso Martín de don Benito to identify a suitable location. When they returned a few weeks later and debriefed Pizarro, they all agreed that the Rímac River Valley, near the coast and the pre-Columbian religious center of Pachacamac, was the best place to establish a town. The *vecinos* of Jauja, and San Gallán, aided by nearly 3000 Indians from Jauja, relocated to the Rímac River Valley.⁷¹

Geography played an important role in Pizarro's decision to move to the Rímac River Valley. In particular, its proximity to the Pacific Ocean and two irregularly flowing rivers, the Rímac and the Chillón. The scribe Domingo de la Presa recorded testimonies from three scouts who described this location as the most logical choice; Ruy Díaz's statement read:

To him [Ruy Díaz] it seems that the *asiento* of Lima is the best site along the entire coast to set up and settle the said town based on what he has seen and where he has traveled. And the site appears healthy, close to the ocean port, airy, and it has many important qualities and lands to farm, many without detriment to the Indians in the region, and there is a lot of firewood and it has all the qualities worth examining that suggest the village will be in a good location.⁷²

⁷¹Soriano Espinoza, ed. *Los Huancas, aliados de la Conquista* (Huancayo: Universidad Nacional del Centro del Perú, 1972), 204. Cuando vino el marqués a Lima de Xauxa le dieron 2930 indios de carga.

⁷² Le parece que el asiento de Lima es el mejor sytio [sic] para asentar y poblar el dicho pueblo que hay en toda esta costa de lo que el ha visto por do[nde] ha andado y lo que vio e miro e hallo es al parecer sano e cerca del puerto de la mar e ayroso [sic] e tiene muy buenas calidades e tierras para labrar muchas syn perjuiyo [sic] de los indios e en la comarca del [h]ay mucha leña e tiene todas las calidades que conviene examinarse para que el dicho pueblo tenga buen sytio [sic] ... Concejo de Lima, *Libros de Cabildos*, 1:13.

Another description of the valley praises the environment as well, "...[T]he region is very good, it has a fine supply of water and firewood, and similar lands and it is airy, clear, unencumbered and to everyone it seems that it [the land] is healthy, and a convenient [place] to found a town so that it perpetuates."⁷³

The conquistadors observed an abundance of alder, an indication that humans had already been landscaping the area to meet their needs, a pattern that continued after the conquest. Just as pre-Columbian inhabitants planted alder around temples, roads, and canals, Europeans introduced non-native fruit trees such as lemon, lime, and oranges to the area.⁷⁴ Fruit trees nourished colonial bodies while alder fed the physical edification of the city and artisan trades. Alder and willow, when converted into charcoal, fueled the fires for blacksmiths, bakers, and silversmiths and its ashes could be turned into gunpowder.⁷⁵

At the time of Lima's foundation, Francisco Pizarro sketched a plan that divided the town into rectangular lots. The map mirrored a structure similar to other settlements in Latin America, especially the rectangular grid layout with a plaza at its

⁷³ En el asiento del cacique de Lima, en dónde juzgaron que debía asentarse la ciudad proyectada, porque la comarca es muy buena y tiene muy buena agua y leña y tierra para sementeras y cerca de la mar e asiento airoso e claro e descombrado que a todos parecía ser sano y tal cual conviene para hacer el dicho pueblo para que se perpetué. Concejo de Lima, *Libros de Cabildos*, 1:2.

⁷⁴ J. Donald Hughes, *An Environmental History of the World: Humankind's Changing Role in the Community of Life*, 2nd ed. (New York: Routledge, 2009), 108. Clay soils restrict the movement of water and air, and therefore are unsuitable for most trees. "Under exceptional conditions of continuous water logging, usually associated with clay soils, only specially adapted trees can survive." The river's clay banks provided the ideal conditions for alder wood and willow trees. in Herbert L. Edlin, *Trees and Man* (New York: Columbia University Press, 1976), 78.

⁷⁵ Diana Wells *Lives of the Trees: An Uncommon History* (New York: Workman Publishing, 2010), 15.

center.⁷⁶ The geometric pattern provided a sense of controlled space, symmetry and “bureaucratic order.”⁷⁷ Streets began at the plaza and extended outward, intersecting at right angles. The plan created one hundred and seventeen blocks, and each block was subdivided into four sections called *solares*.⁷⁸

Cities within the early-modern Spanish Empire share certain similarities that have prompted scholars to theorize what caused this phenomenon. Some of the most recognizable features include the shape and allocation of space, especially the grid layout known as a *traza*. Near the center of the grid is a central plaza often called a *plaza mayor* or a *plaza de armas*, surrounded by important colonial buildings including the town hall, hospitals, markets, a church or cathedral, jail, and private lots owned by *vecinos*. Historical architect Patricia Morgado outlines three of the most common influences: medieval Iberian cities, Italian renaissance writers, and the shape of pre-Columbian cities.⁷⁹ Although many scholars propose any one of these theories, Morgado shows that Latin American cities were more likely the result of a

⁷⁶ The *traza* [grid layout] is traced in part to the late fifteenth-century publication *De Architettura* based upon the work of the Roman architect Vitruvius. The *traza* was originally conceived as a plan for military encampments, and it provided an intellectual framework for how to best organize cities in Latin America. Jay Kinsbruner, *The Colonial Spanish-American City: Urban Life in the Age of Atlantic Capitalism* (Austin: University of Texas Press, 2005), 23; “The urban development of colonial Spanish America,” in *The Cambridge History of Latin America* vol. 2, ed. Leslie Bethel (Cambridge: Cambridge University Press, 1984), 68; Raúl Porras Barrenechea *Pequeña Antología de Lima, 1535-1935* (Madrid: Galo Sáez, 1935), 26; Richard Kagan, “Urban Views” in *Guide to Documentary Sources for Andean Studies, 1530-1900* vol. 1 ed. Joanne Pillsbury (Norman: University of Oklahoma Press, 2008); and Sabine M. McCormack, *On the Wings of Time: Rome, the Incas, Spain, and Peru* (Princeton: Princeton University Press, 2007), 133.

⁷⁷ Richard M. Morse, “The urban development of colonial Spanish America,” in *The Cambridge History of Latin America* vol. 2, 68.

⁷⁸ Each block measured 137 meters squared. Juan Bromley y José Barbagelata, *Evolución Urbana de Lima* (Lima: Talleres Gráficos de la Editorial Lumen, 1945), 51 and Bernabé Cobo, *Historia de la fundación de Lima*, 45.

⁷⁹ Patricia Elvira Morgado Maúrtua, “Un Palimpsesto Urbano: Del asiento indígena de Lima a la ciudad española de Los Reyes” (Ph.D. diss., Universidad de Sevilla, 2011), 36.

combination of all three.⁸⁰

Land distribution patterns indicate that Pizarro only allocated a small portion of Lima's urban space. A map by Juan Bromley and José Barbagaleta illustrates Lima's *traza* and labels the *solares* with the owner's name. However, the map is misleading because it omits landowners whose *solares* are not clearly located in the documentary record. The chronicler Bernabé Cobo contains a more complete list that names land recipients and where possible, the location. Including the central plaza, which occupied 4 *solares*, Pizarro awarded 134 lots out of the 464 shown in his city map.⁸¹ He designated private lands for hospitals, a church, convents, government buildings, and Lima's *vecinos*. Pizarro gave four lots to himself and another four to the Convent of La Merced. He awarded two lots each to García Salcedo, Francisco Godoy, Alonso Riquelme, Hernando Pizarro, Francisco de Chavez, Cristóbal Hontiberos, Benito de Carbajal, Hernando Sepúlveda, the bishop, the king, the city's hospitals, the Santo Domingo Convent, the San Francisco Convent; while the remaining *vecinos* and institutions received one *solar* each.⁸² In addition to the *solares*, most of Lima's *vecinos* already held *encomiendas* of Indians acquired during the Spanish invasion. The list of *encomiendas* identified indigenous tribute labor near indigenous settlements such as Lima, Surco, Canta, Late, Pisco, Huamanga, Jauja, and Huarochiri.⁸³

To use Patricia Morgado's analogy, the day that Pizarro scratched Lima's

⁸⁰ Ibid., 53.

⁸¹ Bernabé Cobo, *Historia de la Fundación de Lima*, 45-48.

⁸² Juan Bromley and José Barbagaleta, *Evolución Urbana de Lima*, 51.

⁸³ Bernabé Cobo, *Historia de la Fundación de Lima*, 45-48

blueprint into the earth, he created the first of many palimpsests. Spanish settlers superimposed a new urban plan on top of the existing indigenous community. Reshaping the city's form to fit an Iberian model, however, had its limitations. Morgado argues that because the valley's indigenous spaces were not erased by the Spanish invasion, the new settlement grew around it. Consequently, Pizarro's palimpsest filled in about half of its projected size, or around 60 out of 117 blocks by 1613.⁸⁴

By 1537, Lima's urban plan included physical spaces designated for Spanish landowners, ecclesiastic institutions, political buildings, and different groups of indigenous peoples.⁸⁵ Pizarro and other *vecinos* encroached on and usurped indigenous lands in the Rímac River valley, including areas belonging to Taulichusco and his heirs.⁸⁶ In 1535, Spanish Lima was a mere outpost surrounded by hundreds of distinct indigenous communities. Despite its small start, in just a few decades it transformed into one of the largest Spanish cities in the Americas. The most decisive moments in Lima's urban growth can be described in five phases: the Peruvian Civil Wars, and the periods 1535-1542; 1550-1555; 1570-1599 and 1614-1635. Against this backdrop, Lima's town council struggled to assert its power over both people and place. This included a struggle for political autonomy with the crown, the political and economic suppression of the merchant class, and the expansion of *cabildo* offices to address a range of urban, environmental problems.

⁸⁴ Ibid., 78.

⁸⁵ Patricia Morgado, "Un palimpsesto urbano," 174.

⁸⁶ Ibid., 177.

1.7 Five Phases of Urbanization: The Peruvian Civil Wars, 1550-1555, 1570-1600 and 1614-1635

1.7.1 Phase One: The Peruvian Civil Wars

Lima's *vecinos* and *moradores* defended the municipality against both Spanish and indigenous assaults. The fallout from the execution of the Incan emperor left a political vacuum among Peru's indigenous peoples, and led to a series of regional power struggles. Lima felt the brunt of warfare in August 1536, when Incan general Quizo Yupanqui and his conglomerate army attacked. Fighting broke across the valley and spilled into city streets. Spanish *vecinos* and their indigenous allies kept Yupanqui and his men from taking the city, but not without a great loss of life. In 2007, archaeologist Guillermo Cook examined the remains of 72 victims killed in the siege, and found that this encounter was extremely violent and gruesome. Cook describes the recovered skeletons as showing signs of "[E]xtreme trauma, having been hacked, torn or impaled."⁸⁷ Following this battle and the additional loss of important military leaders such as Yupanqui, the invading armies disbanded.⁸⁸

Lima's *vecinos* also faced political and military infighting between two competing factions: the supporters of Pizarro and the followers of Almagro. The initial rift between Francisco Pizarro and Diego de Almagro began with the Capitulation of Toledo, but it quickly escalated when Carlos I appointed Almagro as

⁸⁷ To date these remains include the earliest gunshot victim in the Americas; an Inca warrior who was shot by Spanish conquistadors in August 1536. Thomas H. Maugh II, "Inca warrior's wound tells another tale of conquest," *Los Angeles Times*, 20 June 2007, accessed March 5, 2015, <http://articles.latimes.com/2007/jun/20/science/sci-gunshot20>.

⁸⁸ A process that was likely hastened by the demands of the agricultural cycle. August is a critical month for sowing crops in the Andes, and many warriors wanted to return home to tend to their fields. John Hemming, *The Conquest of the Incas*, 206-212.

governor of New Toledo, a territory that included the ex-imperial capital of Cuzco. When Francisco Pizarro sent his brother Hernando to reclaim the city for New Castile, Hernando executed Almagro for treason. In the aftermath, Almagro's followers backed Almagro's son, Diego El Mozo.⁸⁹ Each group competed for control of Peru's important cities and *encomiendas*, and after Francisco Pizarro's assassination in 1541, Almagro's supporters controlled Lima for almost a year.

Years of warfare stimulated Lima's economy, and supported a growing merchant class. The turmoil of the civil wars continued when Gonzalo Pizarro murdered the Peru's first viceroy in 1546 and even tried to crown himself king. By 1549 a royal army led by Pedro de la Gasca assassinated Gonzalo Pizarro and his followers. James Lockhart contends that the climate of social turbulence shaped Peru's main economic and social trends by the mid sixteenth century.⁹⁰ The business of warfare gave rise to an independent artisan class who profited from selling munitions, weapons, and other supplies.⁹¹ Even royal officials sent to pacify the civil wars purchased provisions in Lima.⁹²

Town councilmen felt threatened by merchants whose economic and social capital rivaled their own. Consequently, as entrepreneurs became more prevalent and organized in Lima, *cabildo* members responded by undermining their autonomy in

⁸⁹ For more on the Peruvian Civil Wars see Kim MacQuarrie, *The Last Days of the Incas* (New York: Simon & Schuster, 2007), 305-352.

⁹⁰ James Lockhart, *Spanish Peru 1532-1560 A Social History* (Madison: University of Wisconsin Press, 1994), 3-6

⁹¹ *Ibid.*, 110-113.

⁹² *Ibid.*, 117.

the marketplace.⁹³ The town council addressed the urban economy by creating offices for market inspectors. In addition to charging vendors with inspection fees, the *cabildo* collected a number of sales taxes. Furthermore, the town council denied merchants the ability to participate in the municipal government. The *cabildo* maintained that owing to the nature of their work, they could not impartially manage city affairs.⁹⁴

1.7.2 Phase Two: The Mid-Sixteenth Century 1550-1555

Lima faced significant demographic and health challenges in the mid sixteenth century owing to a rapidly growing population. The sailor Hernán Lamero Galleo de Andrade postulated the population at 3000 Spanish men, 300 *vecinos*, and a “large quantity of Spanish and *mestizo* women,” in addition to an uncounted number of people of African descent, mostly enslaved.⁹⁵ Lamero also counted 20 *encomenderos* and claimed “There are a large number of rich merchants that provide merchandise from Spain to every part of Peru...”⁹⁶ The strains of urban growth are also captured in the testimony of Don Gonzalo, Lima’s *cacique* in 1555. Gonzalo claimed that the Spanish *cabildo* had awarded so many fields and lands to the *vecinos* that there was barely enough land for his people to cultivate in order to feed themselves and pay

⁹³ Carmen Heredia Moreno, “Notas sobre plateros limeños se los siglos XVI-XVII, 1535-1639,” *Laboratorio de arte* 2 (1959): 52.

⁹⁴ John Preston Moore, *The Cabildo in Peru*, 16.

⁹⁵ Hay gran cantidad de mujeres en esta ciudad y mestizas... Library of Congress, The Kraus Collection of Sir Francis Drake, s.f. image 9, “*Relación de Hernán Lamero Galleo de Andrade*,” (1553).

⁹⁶ Hay también muchos mercaderes muy ricos de aquí se proveen de todas las mercaderías de España todas las partes de Perú. *Ibid.*,

tribute.⁹⁷

As the population encroached on the landscape, environmental challenges and health hazards became more evident to the *cabildo*, the viceroy, and the crown. King Carlos I authorized a list of instructions, ordering town councilmen to improve urban sanitation by reducing land and water pollution.⁹⁸ Initially, the *cabildo* addressed urban sanitation by calling on the *vecinos* to maintain their own properties, but they quickly shifted their strategy to a hands-on approach. In the mid sixteenth century, the *cabildo* created two new posts, the *juez de aguas* [water judge] and a sanitation inspector. The *cabildo* charged these new officials with a number of public health obligations including pollution control and enforcement.

As town council brought the natural world under its control, its members also jockeyed for political autonomy.⁹⁹ By 1550, the *cabildo* sought to remove the royal *corregidor*. Arguing that the viceroy and the high courts adequately served royal interests, the *cabildo* successfully petitioned to eliminate the post. Thenceforth, Lima's *alcaldes ordinarios* assumed both their responsibilities and the duties of the *corregidor*. Eliminating the *corregidor* was unprecedented in the Indies, and as Alejandra B. Osorio notes, Lima was the only city without one until the eighteenth century.¹⁰⁰

⁹⁷ AGI, Lima, 204, N22, f. 3v. "Informaciones: Gonzalo, cacique," (6 December 1555).

⁹⁸ BRAH, *Colección Mata Linares*, 22 ff. 140r.-143v. "Ordenanzas de Carlos I para el buen gobierno de la ciudad de Lima," (19 November 1551).

⁹⁹ Of course, councilmen first had to apologize for assuming too much independence during the Peruvian Civil Wars, when the *cabildo* did not send official correspondence to the crown AGI, Patronato, 192, N.1, R.29 "Cabildo de Lima: sucesos de Perú," (1542).

¹⁰⁰ Alejandra B. Osorio, *Inventing Lima: Baroque Modernity in Peru's South Sea Metropolis* (New York: Palgrave MacMillan, 2008), 49.

1.7.3 Phase Three: 1570-1600

The last third of the sixteenth witnessed important administrative changes, especially the tenure of Viceroy Francisco de Toledo, the movement of indigenous *mita* workers into the El Cercado neighborhood and settlement of the Rímac River's northern bank. In 1569, Viceroy Francisco de Toledo began a twelve-year tenure in Peru. Many scholars credit Toledo with three achievements that changed the administration of Peru: the overhaul of colonial government, sweeping reforms, and the resettlement of Peru's indigenous peoples into the *reducciones*.¹⁰¹

Toledo implemented a number of important policies, however, many of his actions built upon earlier programs. For example, Toledo is credited with the creation of El Cercado, a walled indigenous neighborhood that house migrant workers who traveled to Lima to complete their *mita* service. Consolidating indigenous peoples within specific areas of the *traza* began as early as 1535, when Pizarro distributed the Lima's private lands and *encomiendas*. A 1535 map by Juan Bromley and Jose Barbagaleta shows two *solares* allocated to the *asiento* of Indians of Pedro Martín de Sicilia.¹⁰² With time, the Peru's governors and viceroys reformatted these plots within *traza*. In the 1560s, the current governor, Lópe García de Castro sold several lots occupied by Indigenous workers and used the money to purchase land in the eastern

¹⁰¹ Robert Levillier, *Don Francisco de Toledo, supremo organizador del Perú* (Buenos Aires: 1935); Manuel María Marzal, *Historia de la antropología indigenista: México y Perú* (Lima: Pontifica Universidad Católica del Perú, 1981); León Gómez Rivas, *El virrey del Perú don Francisco de Toledo* (Toledo: Instituto Provincial de Investigaciones y Estudios Toledanos, 1994); Lynn Swartley, *Inventing Indigenous Knowledge: Archaeology, Rural Development, and the Raised Field Rehabilitation Project in Bolivia* (New York: Routledge, 2002), 41-42; Javier Tantaleán Arbulú, *El virrey de Toledo y su tiempo: proyecto de gobernabilidad, el imperio hispano, la plata peruana en la economía-mundo y el mercado colonial* (Lima: Universidad de San Martín de Porres, 2011); and Arthur Franklin Zimmerman, *Francisco de Toledo, fifth viceroy of Peru, 1569-1581* (Caldwell: The Caxton Printers, 1938).

¹⁰² Juan Bromley and José Barbagaleta, *Evolución Urbana de Lima*, "Lámina 1," s.p.

section of the *traza*, a space that Viceroy Francisco de Toledo later consolidated into El Cercado.¹⁰³ El Cercado housed indigenous workers who traveled to Lima and resided there in order to perform their *mita* service. By the early seventeenth century, this neighborhood encompassed more than thirty-five blocks containing a parish, gardens, and over two hundred houses.¹⁰⁴

The second important trend during this period was the settlement San Lázaro on the river's northern bank. In 1535, most of its residents were shrimping fishermen whose work was so vital to the crown that it excused them from tribute duty. By the end of the sixteenth century, increasing numbers of *castas* and blacks moved into the area.¹⁰⁵ Owing to the non-European makeup of San Lázaro, Lima's *vecinos* and other elite residents came to view the northern bank with disdain.

Contempt for San Lázaro's residents is evident among *cabildo* members and Spanish chroniclers. When melting snow deluged the river valley in 1578, the Rímac River overwhelmed its banks carving into San Lázaro and sweeping away doors, chairs, tables, and entire homes. When the crises passed, *cabildo* leaders learned that the flood had devastated the northern bank, but it is chronicler Bernabé Cobo who captures the neighborhoods outsider status.¹⁰⁶ Cobo writes, "...It was not a great loss, because few of its inhabitants were wealthy residents of this city."¹⁰⁷ As the city encroached on its environs, not all neighborhoods were created equal. San Lázaro and

¹⁰³ Alejandra B. Osorio, *Inventing Lima*, 18.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid., 19.

¹⁰⁶ Bernabé Cobo, *Historia de la fundación de Lima* (Lima: Imprenta Liberal, 1882), 60-61.

¹⁰⁷ *No fue grande la perdida, por ser entonces pocas y sus habitantes no de la gente rica de la ciudad.* Ibid., 61.

El Cercado housed marginal classes; El Cercado was restricted to Indians and San Lázaro housed blacks, *castas*, plague victims, lepers, and poor Europeans.

1.7.4 Phase Four: 1610-1635

By the end of the sixteenth century, Lima's population surpassed 14,000 people.¹⁰⁸ But the city was not done growing, official headcounts nearly doubled by 1614. At that time, Peruvian chronicler Diego de Ocaña recorded that there was no longer any space for new constructions and crossing the city could take hours.¹⁰⁹ The official census estimated the total population at 25,454 persons. That number broke down into 10,386 Africans (5,857 of whom were women and 4,529 of whom were men); 9,616 Spaniards (5,257 men and 4,359 women); 1,978 Indians (1,116 men and 862 women); 744 mulattoes (418 women and 326 men); and 192 Mestizos (97 men and 95 women).¹¹⁰

Lima's status as a regional capital attracted slave traders and Indian immigrants. African slaves, made a transatlantic journey to ports such as Cartagena where they were then resold to other areas such as Peru. Frederick Bowser explains that slave trading in Peru began as a small-scale operation among merchants traveling between Panama and Callao.¹¹¹ However, by the end of the sixteenth-century, slave traders transported increasing numbers of slaves to Peru because the highland silver

¹⁰⁸ Juan Bromley and José Barbagelata, *Evolución Urbana de Lima*, 63.

¹⁰⁹ Described in Alejandra Osorio, *Inventing Lima*, 7.

¹¹⁰ Miguel de Contreras, *Padrón de los indios de Lima en 1613* (Lima: Seminario de Historia Rural Andina, 1968), iii.

¹¹¹ Frederick Bowser, *The African Slave in Colonial Peru*, 54.

mines meant that buyers could pay with bullion.¹¹² The indigenous population emigrated from central and northern Peru in search of work. In the city, an apprentice could earn 12 pesos annually in addition to room, board, and medical care.¹¹³ Indigenous laborers found employment in trades such as shoemakers, silk weavers, hatters, slaughterhouse workers, carders, button makers, farm hands, fishermen, street vendors, *chicha* brewers, and domestic servants.

During this period, municipal leaders launched substantial urban improvement projects such as the construction of green spaces and the expansion of water services across the city.¹¹⁴ Two areas of town received green spaces: the central traza and San Lázaro. In San Lázaro the current governor Montesclaros oversaw the construction of *Alameda de los Descalzos*, an area that included three streets, eight rows of trees, three fountains, and other adornments.¹¹⁵ Another *alameda* was built along the river near the vice regal palace.

Despite the rapidly changing demographics, Lima's town council leadership continued to favor the families of Lima's original *conquistadores*. In 1612, these families were so influential that the *cabildo* petitioned the Crown for exclusive favors including *encomiendas* and the restriction of certain municipal offices to descendants

¹¹² Ibid., 55.

¹¹³ Paul Charney, "'Much too worthy...' Indians in Seventeenth-Century Lima," in *City Indians in Spain's American Empire: Urban Indigenous Society in Colonial Mesoamerica and Andean South America, 1530-1810* (Portland: Sussex Academic Press, 2012), 89.

¹¹⁴ Juan Bromley and José Barbagelata, *Evolución Urbana de Lima*, 65.

¹¹⁵ AGI, Lima 275, f. 469r. "Carta del virrey que hizo plantar una alameda," (11 April 1611).

of Lima's *conquistadors* and early settlers.¹¹⁶ Moreover, *cabildo* records hint at an underlying tension between Creoles and *Peninsulares* [residents born in Iberia]. One letter from 20 May 1616 reads, "Report on the damage and harm involved filling offices and judgeships with people from the peninsula and the discontent it causes the sons and grandsons of the conquerors."¹¹⁷ Like medieval Seville, Lima's *cabildo* limited political participation based on social status, in this case a relationship to Lima's original Spanish settlers.

The period 1614-1635 highlights both the ascendancy of Lima into one of the largest European cities in the Americas and even Europe at the time as well as the moment when the rapid population growth begins to level off. Sources estimate the city's size at anywhere from 30,000-40,000 in 1630. I conclude my study in 1635 for two reasons. First, it permits an examination of a colonial environment over a significant timeframe that allows for a more meaningful analysis. Second, this timeline coincides with a period of almost unmatched urban growth in the Americas, with the exception of Mexico City. Lima's path to urbanization occurred so rapidly, that municipal leaders found themselves constantly at odds with environmental adversities.

¹¹⁶ Javier Ortiz de la Tabla Ducasse, María Jesús Mejías, Álvarez Rivera Garrido, eds., *Cartas de cabildos hispanoamericanos* vol. 1 Audiencia de Lima (Lima: Pontifica Universidad Católica del Perú, 2000), 52 and 56.

¹¹⁷ Informan de los perjuicios y daños que supone el proveer los oficios y corregimientos con personas venidas de la península y de los descontentos que esto provoca en los hijos y nietos de los conquistadores. Ibid., 61.

1.8 Conclusion

This study is a historical reconstruction of colonial Lima based on the English and Spanish-language secondary literature as well as primary documents. Archives in Spain, Peru and the United States provided a variety of materials including descriptions of landscape and society, tithes and ground rents, property titles, lawsuits, hospital inventories, secular and ecclesiastical correspondence, and the weekly *cabildo* records from 1535-1635.

These sources are not new to scholars, but I use them innovatively, especially the *cabildo* records which are widely known and used by scholars of colonial Peru. In this case, I took a source that has been traditionally used to understand what the *cabildo* did and when, and read against the documentary grain. My analysis illuminates how town councilmen thought about the environment and used environmental policies to govern the public good and promote their own political agenda.

I contribute to the corpus of secondary literature by adding a new vantage point: the role the urban environment played in the administration of a colonial city. Municipal leaders understood that the environment was a fluid relationship that affected different bodies in different ways, and they used that knowledge to create a public health agenda addressing the needs of distinct constituencies, including European, African, and indigenous men and women. This process is explained through an analysis of Lima's irrigation canals, hospitals, consumption policies, urban sanitation program and pharmacies.

Chapter 2 shows how the administration of water shaped jurisdictions between ecclesiastical, Spanish, and indigenous irrigators. Chapter 3 examines the network of specialized hospitals targeting specific categories of people such as Santa Ana, the indigenous hospital, and San Andrés, the Spanish hospital. Each facility provided individualized care and targeted a subset of the population. Chapter 4 investigates the urban food supply and how the municipal government invoked the discourse of food, alcohol and the body to exert control over the labor supply and the urban economy. Chapter 5 analyzes how municipal elites understood the term “healthy landscape,” and how they worked to coerce different groups of laborers from black slaves to free mulattos to indigenous *mita* laborers to maintain a hygienic urban environment. Chapter 6 observes how the *cabildo* used the language of the common good to intervene in pharmaceutical practices. Their participation involved not only periodic inspections, but also a ban on black and indigenous shop assistants. Through the discourse of public health, the *cabildo* confronted and attempted to control colonial bodies in a constantly changing environment.

CHAPTER 2

DIVIDING WATERS

2.1 Introduction

Three scouts entered the Rímac River valley in the summer of 1534, and they encountered a world that seemed abundant. Orchards and fields flourished alongside willow, alder, and fruit trees such as avocado, quince, lúcuma, orange, lemon and lime.¹ Three irregularly flowing rivers sustained a vibrant range of plant and animal life on an otherwise arid coast. The Rímac, Chillón and Lurín Rivers ran a winding course from the Andes Mountains to the Pacific Ocean. Indigenous peoples living along the rivers and tributaries channeled them into irrigation canals covering hundreds of square miles of land. The Spanish called the irrigation canals *acequias* (from the Arabic word *as-saquiya* a term carried over from the Muslim conquest of the Iberian peninsula).²

The garden-like appearance of the Pacific Coast beckoned to Spanish explorers. After hearing descriptions of the area, the Spanish governor, Francisco

¹ Paul Kosok, *Life, Land and Water in Ancient Peru* (Brooklyn: Long Island University Press, 1958); Luis Felipe Mejía Huamán, “Sistema Hidráulico de Lima Pre-hispánica: Etapas Constructivas del Canal de Ate,” *Boletín del Museo Arqueología y Antropología de la Universidad Nacional de San Marcos* 4 (1998); and Rafael Segura Llanos and Patricia Habetler, “Pre-Inka Irrigation Canals and Settlements on the North Bank of the Rímac River” (paper presented at the Annual Meeting of the Midwest Conference on Andean and Amazonian Archaeology and Ethnohistory, Madison, Wisconsin, February 22-24, 2008).

² William E. Burns, *Science and Technology in Colonial America*, (Westport: Greenwood Publishing Group, 2005), 3.

Pizarro, ordered his band of conquistadors to relocate from Peru's central highlands to the Rímac River Valley. With the apparent consent of the local *cacique* (chief), Pizarro chose a location on the southern bank of the Rímac River.³ He then performed the ritual Act of Foundation on January 18, 1535.⁴ Pizarro placed the first stone for the Catholic church on top of the indigenous Puma Inti temple and named it after Our Lady of the Assumption.⁵ Then, he laid out an urban grid plan.⁶ The Spanish *traza* immediately benefited from two out of four principal *acequias* in the valley: the Huatica (renamed Santa Clara) and the Magdalena.

Spanish conquistadors encountered indigenous hydraulic networks across the Americas. In cities such as Lima, Mexico City, San Luís Colorado, and El Paso, Texas, Spaniards recreated Iberian water traditions. They based water administration on a mixture of Arab and Roman law. Overall these systems emphasized three ethical

³ Prior to the Spanish invasion of Peru, Queen Isabella signed the Capitulation of Toledo (1529), recognizing Francisco Pizarro as its new governor. The title granted Pizarro many privileges including the right to pacify the indigenous population and found new Spanish cities.

⁴ Pizarro named The City of Kings after the Epiphany, the Catholic holiday celebrating the magi's arrival to Bethlehem (observed January 6th). Consejo de Lima, *Libros de Cabildos*, 1:1.

⁵ Consejo de Lima, *Libros de Cabildos*, 1:13 and María Rostworowski, *Obras Completas: una trayectoria milenaria, II, Pachacamac y el señor de los Milagros: Señoríos Indígenas de Lima y Canta* (Lima: Instituto de Estudios Peruanos, 2002) 232-233.

⁶ The traza is traced in part to the late fifteenth-century publication *De Architectura* based upon the work of the Roman architect Vitruvius. The traza was originally conceived as a plan for military encampments, and it provided an intellectual framework for how to best organize cities in Latin America. Jay Kinsbruner, *The Colonial Spanish-American City: Urban Life in the Age of Atlantic Capitalism* (Austin: University of Texas Press, 2005), 23; Richard Morse, "The Urban Development of Colonial Spanish America," in *The Cambridge History of Latin America* vol. 2, ed. Leslie Bethel (Cambridge: Cambridge University Press, 1984), 68; Raúl Porras Barrenechea Pequeña Antología de Lima, 1535-1935 (Madrid: Galo Sáez, 1935), 26; Richard Kagan, "Urban Views," in *Guide to Documentary Sources for Andean Studies, 1530-1900* vol.1, ed. Joanne Pillsbury (Norman: University of Oklahoma Press, 2008); and Sabine MacCormack, *On the Wings of Time*, 133.

concepts: usufructary access, mutual aid, and cooperative labor.⁷ Under the principle of usufructary access, water belonged to the Crown, but irrigators had the right to use it as long as their practices did not infringe on other irrigators. The concept of mutual aid was particularly influential in water allocation, especially that under drought conditions, all irrigators used less water. Cooperative labor called on the collaboration between irrigators to take part in activities such as canal cleaning and maintenance.

However, Lima was distinct in that its water supply fluctuated greatly owing to seasonal changes and the lengths it traveled just to get to the city itself. Lima is located along the Rímac River, which supplies over 75% of the water to Lima and its port city, Callao. The Rímac watershed covers approximately 1200 square miles beginning at an altitude just under 17,000 feet. At around 15,000 feet, the river is initially redirected into irrigation canals. Hundreds of settlements follow the river's path, diverting its waters along the way. Water levels can vary from almost non-existent to devastatingly high. Inundations dredge up soil, eat away at shorelines, and create turbid waters. It is within this landscape, an arid coastal desert, with an intermittent and at times uncertain water supply, Lima's founders contemplated what it meant to have a healthy body, and enacted their beliefs through water policies.

Lima's *cabildo* used water policies to achieve three public health objectives. First, they justified jurisdictional claims over multiple corporate bodies. Second, they regulated pollution. And third, they divided the city itself into two parts: healthy and unhealthy. Furthermore, municipal leaders evaluated the urban environment and used

⁷ José A. Rivera, *Acequia Culture: Land, Water and Community in the Southwest* (Albuquerque: University of New Mexico Press, 1998), 226-230; Devon G. Peña, "Endangered Landscapes and Disappearing Peoples?: Identity, Place, and Community in Ecological Politics," in *The Environmental Justice Reader: Politics, Poetics, and Pedagogy*, ed. Joni Adamson, et al. (Tucson: University of Arizona Press, 2002), 67.

that information to build a public health program that benefited them first and foremost. Consequently, town councilmen exerted their own health expertise and agenda in the local politics of the body.

2.2 Appropriating the Pre-Columbian Hydraulic Network

Acequias were central to Lima's foundation and the evolution of power in the Rímac River Valley. Melting glaciers in the Andes form the Chillón, Rímac, and Lurín (see figure 2.1) Because the water table was deep and inaccessible in the early-modern era, these rivers and their canals were the only source of drinking water.⁸ In addition to the irrigation canals, mists [*garua*] sustained seasonal vegetation. Owing to the arid climate and the importance of irrigation, political power depended on the proper management and distribution of water.

⁸ José Narváez, "Pre-colonial Irrigation and Settlement Patterns in Three Artificial Valleys in Lima-Peru" (Ph.D. diss., University of Calgary, 2013), 17.

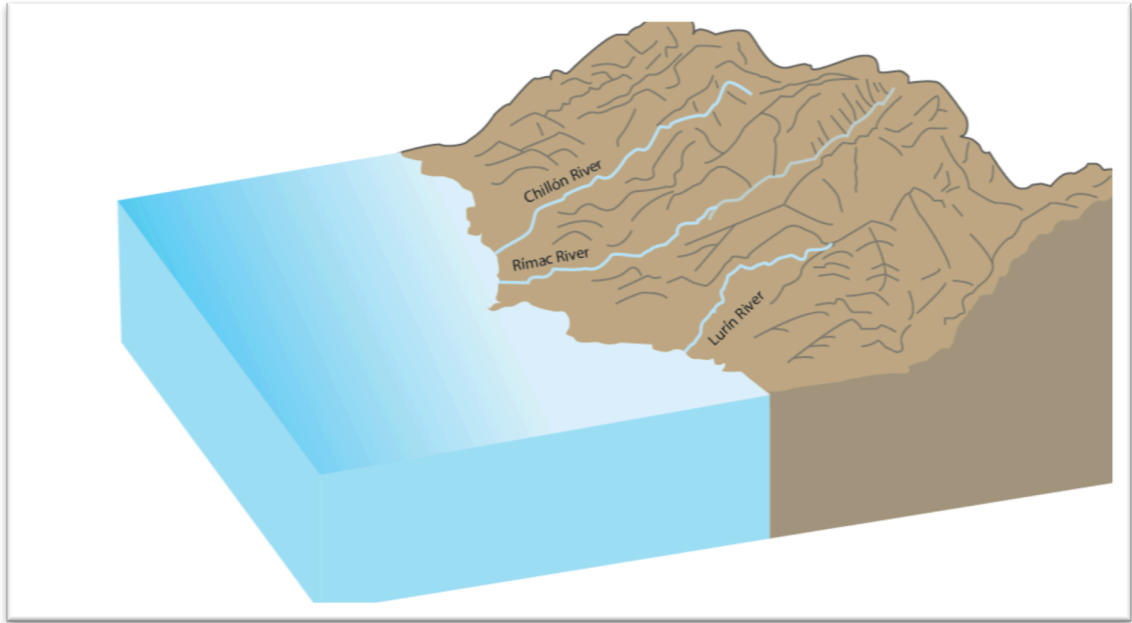


Figure 2.1 Important Watersheds along Peru's Central Coast, 1535

Four main *acequia* lines made up Peru's central coast: Ate, Surco, Huatica, and Magdalena (see figure 2.2).⁹ During the period just prior to the conquest, archaeological and anthropological evidence suggests that indigenous sociopolitical boundaries followed the hydraulic network.¹⁰ Indigenous communities were organized into *curacazgos* that followed the primary and secondary canals controlled

⁹ María Rostworowski, *Pachacamac y el señor de los milagros*, (Lima: IEP, 2009), 221.

¹⁰ José Narváez, "Pre-colonial Irrigation and Settlement Patterns," 2; Rafael Segura Llanos and Patricia Habetler, "Pre-Inka Irrigation Canals and Settlements on the North Bank of the Rímac River," 2; and Karl Wittfogel, *The Hydraulic Civilizations* (Chicago: University of Chicago Press, 1956).

by a paramount chief. Indian caciques drew power from their ability to maintain, protect, and distribute water within their sphere of influence.¹¹

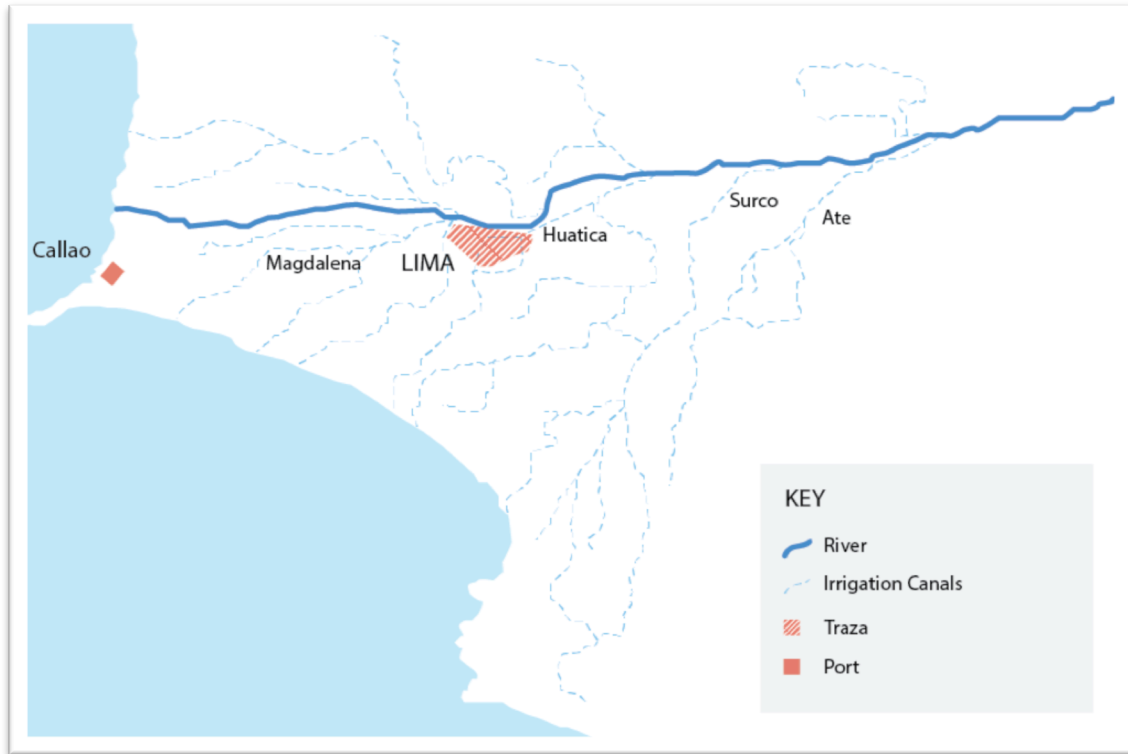


Figure 2.2 Main Acequia Lines, Rímac River Valley, 1535

In pre-Columbian Latin America, water rituals of reciprocity and mutual obligation reaffirmed the bond between neighboring communities. Archaeologist Patricia Netherly has found evidence from the early horizon period (900 B.C.E. to 200 C.E.) illustrating the ritualistic cleaning of the Cumbemayo Canal outside

¹¹ Juan Gunther Doering, *Lima* (Madrid: Fundación Mapfre América, 1992), 33; Herbert Eling, *The Role of Irrigation Networks in Emerging Societal Complexity during Late Prehispanic Times, Jequetepeque Valley, North Coast, Peru* (Ph.D. diss., University of Texas Austin, 1987); Patricia Netherly, “The Management of Late Andean Irrigation Systems on the North Coast of Peru,” *Society for American Archaeology* 49(2) (1984): 225-254; Maria Rostworowski de Diez Canseco, *Señoríos indígenas de Lima y Canta* (Lima: Instituto de Estudios Peruanos, 1978), 52-53; and Maria Rostworowski de Diez Canseco, *Señoríos indígenas*, 18.

Cajamarca.¹² It is believed that as part of these rituals, local lords provided food and tools to laborers who cleaned and repaired irrigation ditches.¹³ Indigenous water rituals served the social and economic interests of local lords by ensuring water flow to agricultural fields and canal maintenance.¹⁴ By contrast, councilmen did not use public ceremonies to organize labor or promote a sense of shared responsibility among irrigators. Instead, as shown below, they turned to coerced labor systems to clean canals and they built an alternative aquatic infrastructure to supplement the civic water supply.

Both pre-Hispanic and Spanish inhabitants drew on irrigation canals to service public and private buildings. When Francisco Pizarro founded Lima in 1534, he created a city plan that sat directly on top of pre-existing irrigation canals and important indigenous administrative sites.¹⁵ By juxtaposing Pizarro's grid plan (see figure 2.3) to the water supply it becomes obvious that this was some of the most valuable real estate in the valley. Pizarro placed the *traza* directly on top of two main irrigation channels: the Huatica and the Magdalena. This set Lima up as one of the most important conglomerate of irrigators in the entire valley.

¹² Patricia Netherly, "The Management of Late Andean Irrigation Systems," 244.

¹³ Nancy Ellen Schaeffer, "Fishermen, Farmers and Fiestas: Community Ritual of Traditional on the Northwest Coast of Peru" (Ph.D. diss., University of Texas Austin, 2006), 47 and 54 and Jeffrey S. Smith, Matthew R. Engel, Douglass A. Hurt, Jeffrey E. Roth, James M. Stevens, "La Cultura de la Acequia Madre: Cleaning a Community Irrigation Ditch," *The North American Geographer* 3:1 (2001): 5-28.

¹⁴ Patricia Netherly, "Management of Late Andean Irrigation," 231.

¹⁵ Patricia Morgado, "Un palimpsesto urbano: del asiento indígena de Lima a la Ciudad Española de los Reyes," 166.

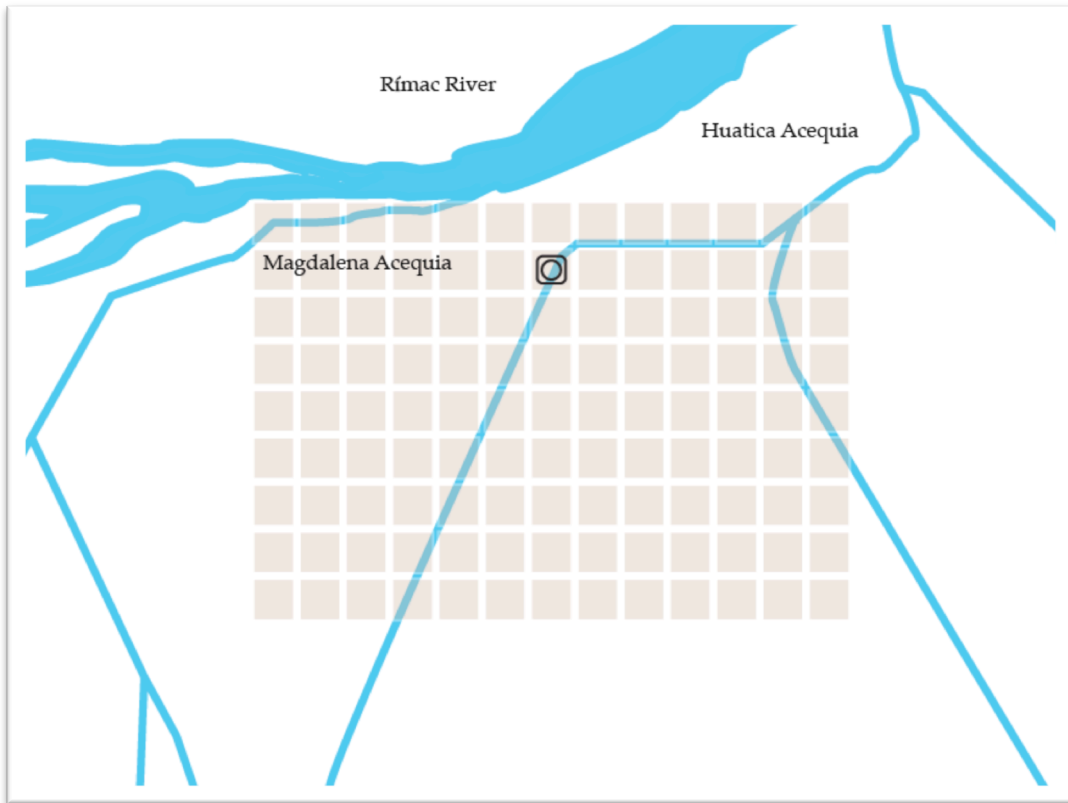


Figure 1.3 Lima's Traza and two main Acequia lines, 1535

Lima's main plaza was located one block from the river and overlaid of the Huatica irrigation canal. The Huatica ran through the political center of colonial Lima to the southern districts of San Isidrio and Miraflores. The *traza* also bordered Magdalena's water source, which began behind Pizarro's land holdings (later the viceregal palace) and split into two channels: one ran through San Miguel to the Pacific Ocean and the other to La Legua.

2.3 Water Distributions and Jurisdiction

Water surrounded Lima. The hydraulic network ran along streets, passed by houses and fields and bubbled up into fountains. Residents encountered water in the

Rímac River, the irrigation canals, fountains, and freshwater lagoons near Callao. Its widespread presence generated mixed feelings among Spanish physicians and urban elites because it both benefited and harmed public health. On the one hand, settlers depended on it to survive. On the other, dirty water exuded harmful, disease-carrying humors.

Medical works from the era, many utilized in private libraries, provide evidence of how that connection was theorized.¹⁶ Royal physician Luis Lobera de Ávila, advised against drinking plain water because it seeped to the core of the human body, carrying with it cold, humid humors.¹⁷ Instead, he recommended heating it with diverse ingredients because "...[o]nly by boiling does it lose its harshness."¹⁸ Yet, the very properties that made it severe could be used to treat maladies. Water boiled with cinnamon and cloves eased stomach inflammation, water combined with poached ox tongue and borage leaves relieved melancholy, and stewed chicory and fern water made a diuretic.¹⁹ Water could even counteract fevers because when the body was hot and dry, water offered the exact opposite: dampness and coldness.²⁰ When discussing quality, Lobera writes "The best source of water is that which begins above

¹⁶ Francisco Nuñez de Oria, *Regimiento y aviso de sanidad, que trata de todos los géneros de alimentos y del regimiento della* (Medina del Campo: Francisco del Canto, Pedro Landry, y Ambrosio Du Port, 1586).

¹⁷ Luis Lobera de Ávila, *Banquete de Nobles Caballeros* (San Sebastián: R & B Ediciones, 1996), 67.

¹⁸ En sola la ferventación pierde mucha parte su crudeza in *ibid.*

¹⁹ *Ibid.*

²⁰ Luis Lobera de Ávila, *Banquete de Nobles Caballeros*, 68.

ground...and...has mostly clear stones, and no noticeable smell or taste.”²¹ Lima’s supply stemmed from a healthy source, yet freedom from tastes and smells proved increasingly difficult because as the population increased so too did water pollution. Pollution and drinking water were only some of the concerns informing municipal water policies. Councilmen also worried about the distribution of water through Spanish Lima to the rest of the valley.

Municipal water administration involved managing a resource that flowed from outlying areas into the city. Therefore, the *cabildo* was concerned with water use both within the municipality and the greater valley. Several coexisting jurisdictions competed for water in colonial Peru. There were the municipalities, Spanish towns, governed by a *cabildo*; Catholic orders that in living according to their vows were already living in ways obedient to the Catholic Church, and indigenous communities that followed their traditional customs and recognized the authority of an indigenous cacique. Under Castilian law, each of these separate legal entities maintained the right to self-govern, according to customary law, while remaining ultimately subject to the authority of the crown. Members of all three groups had access to, and control over, land, and regularly came into conflict with each other over water access and public health. Lima developed a political structure that set parameters for how its citizens and other corporate groups interacted with the civic water supply. These laws, ordinances, and schedules affected different populations in different ways, and by doing so asserted a jurisdictional claim over them all.

²¹ Pues la mejor de las aguas fontanales es la que tiene origen o nacimiento al salimiento del sol, y cuanto está en más alto y es más continua y más liviana y no se disminuye en el estío, es mejor; mayormente si fuere de piedras claras, sin sabor, y olor notable. Ibid., 67.

Municipal leaders tied water usage to citizenship in Spanish Lima. In March 1535, the town council ordered, "...[W]ater needs to flow by streets and grates through the *acequias* as it did before the city's foundation, and to accomplish this every *vecino* is responsible for making space on his lot for the *acequia* to pass and to provide an exit so that it can reach other lots."²² Home by home, the hydraulic network expanded alongside the physical construction of the city. Political participation, land, and homeownership were all tied to water policy in colonial Lima.

As Spanish conquistadors acquired land they co-opted more of the hydraulic network in the fields and lands surrounding the city. Land invasions, sales and auctions, wrested indigenous community lands into the hands of private landowners. In addition, *encomienda* grants awarded indigenous tribute labor to Spanish (and occasionally indigenous) men. There were three types of *encomiendas* granted in colonial Latin America: perpetual grants that remained in the family, limited grants that could be inherited only one time, and royal *encomiendas* controlled by the monarchy.

With the settlement of urban blocks and agricultural lands, residents placed new demands on the existing water supply, necessitating an organized distribution plan. To regulate water access for their *vecinos*, councilmen created a rotation schedule dependent on land use and size. Landholders were required to apply for licenses to install canals that would bring water to their properties. Before they were issued, a municipal inspector visited the site and determined where to place the canals and how

²² Hay necesidad que para el servicio della ande el agua por las calles y solares por sus *acequias* como solía andar antes que la ciudad se fundara e que para esto cada *vecino* tenga cargo de hacer y dar lugar para que pase por su solar y le de salida para que sirva a otros solares. Consejo de Lima, *Libros de Cabildos*, 1:20.

much water they would receive. Within the *traza*, councilmen expedited new home constructions by allowing residents one year to enclose and settle their land.²³ After building four homes in 1551, Diego Gutiérrez applied for a *merced de agua* (water license). The *cabildo* sent a scribe and Diego de Torres, an *alarife* (master builder), to inform Gutiérrez of his legal rights.²⁴ Torres indicated where to build intake passages, how the *acequias* would connect to other lots, and the quantity of water each home would receive.²⁵

Water management served the common good of the republic. As the urban landscape began to change, so too did the strains on the hydraulic network. By the mid-sixteenth, council records reflect an increasing number of complaints and challenges involving the irrigation canals. Councilmen addressed these tensions by expanding their bureaucratic network. In 1556, the *cabildo* appointed an officer charged with the sole task of administering water, the *juez de aguas*.²⁶ The water judge was a municipal position transferred from Spain to the Americas usually in regions with significant agriculture or irrigation. He assumed responsibility for any conflicts or litigation related to water. On the day the *cabildo* swore in the first water judge, their minutes read, “The city is full of filth...it is not clean and is greatly damaging to the republic’s health.”²⁷ The institution of a water judge was partially a response to pollution and partially a response to disputes between different groups of

²³ 9 October 1535 in Consejo de Lima, *Libros de Cabildos*, ed., Saldamando, 1:72.

²⁴ See entry for 9 February 1551 in Consejo de Lima, *Libros de Cabildos*, 4:340.

²⁵ Ibid.

²⁶ 25 August 1556 in Consejo de Lima, *Libros de Cabildos*, 5:516.

²⁷ Esta ciudad está llena de inmundicias...es gran perjuicio de la salud de la Republica. Ibid.

people. He managed repartition, "...[A]mong Spaniards and Indians so that they could water their *chácaras* and fields."²⁸ Working both in the city and around the valley, it was no small task for the *juez de aguas* to settle quarrels and enforce ordinances.

Damaged irrigation canals created a crisis in 1574 that epitomized that stress. When water judge Francisco de Lara arrived at the city center he found several broken *acequias* inundating the street. Mud and water made the area impassible. Lara vented his frustrations before the council: he was one person with an impossibly large jurisdiction encompassing the *traza* and Spanish properties across the valley. He beseeched his colleagues for at least two more assistants. They agreed, and appointed two bailiffs, one assigned to the countryside and the other to the city.²⁹

Water usage outside the city was just as important as it was within the *traza*, and these officials had to monitor neighboring jurisdictions. The rural bailiff's jurisdiction included Santiago de Surco, one of the largest indigenous villages in the region. Surco enjoyed access to one of four main *acequias* derived from the Rímac, known as the Surco acequia.³⁰ In the mid sixteenth century, a series of Spanish land invasions transformed the landscape around the *acequia*. Spanish men wrested indigenous holdings through coerced and voluntary sales. Viceregal auctions and sales, for instance, allowed Spanish men to purchase "unoccupied" spaces provided they cultivated the soil and repaired canals. Diego de Porras Sagredo employed this tactic

²⁸ En la dar repartir así los españoles como naturales para sus chácaras y sementeras. See entry for 5 September 1556 in *ibid.*, 521.

²⁹ AHML, Consejo de Lima, *Libros de Cabildos*, 6: f. 242v.

³⁰ Juan Gunther believes the Wari built this canal. Juan Gunther, *Memorias de Lima*, 57.

to occupy lands previously belonging to the *curacazgo* of Surco.³¹ Lima's vecinos began to hold title to lands and resources in indigenous towns, and the *cabildo* claimed jurisdiction over these as well.

In 1574, the town council learned that the Surco and Magdalena *acequias* failed to reach their intended beneficiaries, noting "It has been going on for some time...and the fields are drying up for lack of water and the farmers are complaining quite a bit..."³² The *cabildo* ordered an alderman and a water bailiff to inspect and resolve the problem.³³ This episode shows how the town council merged its authority and jurisdiction with the largest and most important water sources in the valley. By assuming control over the hydraulic network, they bore the responsibility to maintain canals.

The *cabildo* explained its extensive reach by linking the common good to water use. According to the *cabildo*, political order and public health depended upon the Spanish administration of water in the entire region: "It is suitable to remedy that, which relates to water and its good order for the sake of supplies as well as the health [of the city], so that in general no harm is caused."³⁴ The municipal water bureaucracy relied on the water judge's careful recordkeeping; he kept track of all information related to individuals, properties, and distribution. In the event of a

³¹ Paul Charney, *Indian Society*, 45.

³² Con ser ya pasado el tiempo...las sementeras se va secando por falta de agua y los labradores se quejan mucho dello. 12 July 1574 in Consejo de Lima, *Libros de Cabildos*, 7:619.

³³ Ibid.

³⁴ Que convenía poner remedio así para los bastimentos como para la salud era lo que toca a las aguas y buen orden...por no haber resultaban muchos daños en general. See entry for 4 January 1577 in Consejo de Lima, *Libros de Cabildos*, 8:367.

dispute, the *cabildo* consulted this register.³⁵ Physical markers identified the volume allocated to each property and ensured they did not “[r]eceive more or less water than they deserved.”³⁶ Markers also indicated the location of dividers and the “*bocas de acequias*”.³⁷ These tools clarified the terms of water usage within the municipal government’s jurisdiction.

The tenure of Viceroy Francisco de Toledo (1569-1581) marked an important change in the administration of water for both Spanish and indigenous parties. In the case of the *encomenderos*, Toledo ended perpetual *encomiendas*, returning them to the crown after one lifetime.³⁸ Toledo also confirmed a number of well established practices such as using municipal licenses to alter irrigation canals, placing stone markers at intake gates, and keeping *acequias* clean, covered (if crossing a street), and maintained.³⁹ Although largely a continuation of municipal policies, Toledo’s decrees created a new point of reference for water disputes moving forward.⁴⁰ For indigenous communities in the Rímac River Valley, the ongoing resettlement programs reconfigured entire groups of people into new political arrangements and divorced them from their previous relationship to the land and water.

³⁵ 6 November 1553 in Consejo de Lima, *Libros de Cabildos*, 5:107.

³⁶ Para que no reciban más ni menos agua de la que a menester. See entry for 19 February 1557 in *ibid.*, 580.

³⁷ See entry for 6 December 1591 in Consejo de Lima, *Libros de Cabildos*, 11:575.

³⁸ D.A. Brading, *The First America: The Spanish Monarchy, Creole Patriots and the Liberal state 1492-1867* (Cambridge: Cambridge University Press, 1991), 132.

³⁹ *Ibid.*, 57-59. Some of Lima’s water policies were a continuation of medieval water practices articulated in Alfonso X’s *Siete Partidas* Alfonso X, vol. 3 *Las Siete Partidas Medieval Law: Lawyers and their Work*, trans. Samuel Parson Scott, ed. Robert I Burns S.J. (Philadelphia: University of Pennsylvania Press, 2001), 856-857.

⁴⁰ See entry for 21 January 1577 in Consejo de Lima, *Libros de Cabildos*, ed. Saldamado, 1:58.

Who you were in colonial Lima affected how you resolved water issues. Colonial societies were structured on a system of legal pluralism.⁴¹ Spanish officials governed the *vecinos* and municipalities and Indians governed native communities.⁴² When Spaniards quarreled about water use within the city, their case went before the *cabildo*. When Spaniards argued with other indigenous communities it went to one of two Spanish officials charged with representing indigenous legal concerns, the *Corregidor de Indios* or the *Protector General* of Indians. And when indigenous communities had internal arguments, it was decided by their cacique or *alcaldes*. These jurisdictional boundaries were modeled on the early-modern Iberian system that allowed for Muslims, Jews, and Christians to resolve conflicts in their own communities with their own judges, unless the crime involved another faith or a serious offense.⁴³ In colonial Latin America, indigenous governance provided that the native political unit remained viable. In Mexico, Brian Owensby found that when the *altpetls*' influence declined in the mid sixteenth century, so too did the power of indigenous caciques.⁴⁴

Several cases reveal how the *cabildo*'s water judge handled conflicts involving ecclesiastical, Spanish, and indigenous parties. In 1574, two widows blamed the *cabildo* for overseeing water distribution so poorly that the women's gardens had

⁴¹ Laura Benton, *Law and Legal Cultures: Legal Regimes in World History, 1400-1900* (Cambridge: Cambridge University Press, 2005), 2.

⁴² Brian Owensby, *Empire of Law and Indian Justice in Colonial Mexico* (Stanford: Stanford University Press, 2008), 25.

⁴³ Laura Benton, *Law and Legal Cultures*, 31.

⁴⁴ Brian Owensby, *Empire of Law*, 37.

withered up and died.⁴⁵ For years, the women received plenty of water, but suddenly the supply dropped. María de Contreras and Francisca Muñoz asked the *cabildo* to send someone to investigate the problem “*por vista de ojos*” [with his own eyes] before they lost every last tree. Somewhere, someone had altered the hydraulic network. Perhaps the widows already suspected which neighbor(s) were guilty. In any case, they chose not to blame individuals, but rather the *cabildo*. The *cabildo* immediately appointed someone to investigate the widows’ claims and rule on the matter.⁴⁶ Here, water usage was more clear-cut. The town council controlled water distribution for Spanish, secular residents. By contrast, if an indigenous party became involved, then Lima’s Spanish government negotiated water rights through the Protector General of Indians.

The resettlement of indigenous peoples into villages completely transformed their relationships to water. Prior to the foundation of Lima and several *reducciones*, regional chiefs controlled the *acequias*. Afterwards, the *caciques*’ influence shifted and new colonial power structures undermined their authority. Lima’s town council used water to demarcate indigenous and Spanish dominions. In 1630, the Protector Domingo de Luna summarized the existing tradition: Spaniards alternated with Indians at night, Sundays, and holidays. Beginning around five o’clock in the evening, Spaniards blocked their intakes and Indians opened theirs up.⁴⁷ Rotating water access occurred in Lima and elsewhere in the viceroyalty of Peru.

⁴⁵ Consejo de Lima, *Libros de Cabildos*, 8:20.

⁴⁶ Ibid.

⁴⁷ AGN, Aguas, L.1, C.3.3.1.6, s.f. “Copia simple de la escritura de concierto que celebraron los indios comuneros de Surco,” (24-25 July 1630).

The *cabildo* set water schedules that served different populations' needs, and as they did so they imposed a broad jurisdictional claim over all irrigators. An example taken from Surco indicates how these regulations worked on a daily basis. The friars of Our Lady of Mercy Monastery neglected to block their water intakes interrupting service to the Indian village of Surco. In his claim, the *Protector* declared:

...[T]he Indians are the lords of all the water in the village's large *acequia*. And they use it to irrigate the majority of the lands in this valley every night, Sunday, and annual holidays, and being so, the Spanish and the monastery's friars who are interested in the irrigation channel, steal water from it [the *acequia*] during the times that belong to the Indians.⁴⁸

In his capacity as *Protector general de indios* for the Republic of Peru, Domingo de Luna, ordered a third-party manager (with the help of a black slave) to physically enforce the water rotation by nailing iron bars in place in the evening and removing them the next day.⁴⁹ More importantly, this example illustrates how secular Spanish officials were recognized as having jurisdiction over ecclesiastical bodies in certain cases.

Yet, the Church could successfully challenge this authority. In May 1580, a drought caused two Spanish neighbors, Hernando Sánchez and the abbess of Nuestra Señora de la Concepción, to butt heads. Sánchez sued the abbess for stealing water from his *acequia*.⁵⁰ According to Sánchez, two *acequias* passed by his home and the monastery. A municipal inspector had already instructed the abbess to use the upper

⁴⁸ Los dichos indios son señores de todo el agua de la acequia grande del dicho pueblo que riega la mayor parte de las tierras deste valle todas las noches, domingos, y fiestas del año y que con ser así los españoles y convento de religiosos interesados en el riego de la dicha acequia les roban el agua en el dicho tiempo que es de los indios. Ibid., s.f.

⁴⁹ Ibid., s.f.

⁵⁰ BNP, A493, "Proceso de Hernando Sánchez contra doña Inés de Ribera, Abadesa del Monasterio de Ronjas de Nuestra Señora de la Concepción sobre las acequias que se riegan las chacaras de Comas" (18 May 1580).

acequia, leaving the other channel to Sánchez. In fact, the inspector even recommended the abbess build troughs to improve distribution. The abbess never followed through. Instead, she watered the monastery's fields using both *acequias*. As a result, Sánchez claimed to have lost half his harvest.⁵¹ He claimed that his only source of water was "...a spring that is used by everyone in the valley for irrigation."⁵² Sánchez asked the court to send the water judge and a *labrador* [laborer] to enforce the previous ruling.⁵³ Sanchez's experience reveals how Spanish residents used legal precedents to resolve water conflicts in colonial society. His lawyer reproduced the mandate issued three years earlier by viceroy Toledo. The lawyer specifically referred to a statute claiming no estate could use more than one *acequia grande* [main *acequia*].⁵⁴ His case was, simply, that the statute should be enforced against the nuns.

In contrast, the nuns claimed to be exempt from municipal jurisdiction, as a body subject to ecclesiastical law. The appellate judge agreed, refusing to enforce the statute.⁵⁵ Their argument offers insight into a region divided by competing water jurisdictions. It highlights the tenuous nature of the municipal water administration, which found its domain restricted to secular property owners.⁵⁶ However, these boundaries were not always clearly defined. Just a few years earlier, the *cabildo*

⁵¹ Ibid., f. 1r

⁵² Y solo queda un puquio al cual regamos todos los de aquel valle. Ibid.

⁵³ Ibid., f. 1v

⁵⁴ Ibid., f. 10r (22 January 1577).

⁵⁵ Ibid., f. 13r (30 May 1580).

⁵⁶ Ibid., 64v (30 August 1580).

asked religious institutions to appoint a layperson that could be punished for municipal infractions.⁵⁷

Downstream from Lima, the village of Santiago de Surco shows the Protector again reestablishing the balance between ecclesiastical and indigenous water routines. By the 1630s, Spanish farms and Jesuit sugar plantations occupied both sides of Surco's *acequia* and surrounded the Indigenous town and its fields.⁵⁸ At that point, the Jesuits were one of the largest property holders near the Surco *acequia*, and in 1633 the *Protector de Indios* reprimanded them for not following the traditional water schedule.⁵⁹

At stake was how much water certain groups of people were able to use. A lawsuit from the seventeenth century reconstructs that process. In 1672, Lima's water judge conducted a routine inspection of the *bocatomas* derived from Surco *acequia*:

Arriving to the first opening of the *acequia* at the field named pólvora...the judge ordered that the channel be measured, and finding that more than 36 *riegos* of water entered through the opening, and not being allowed more than 5 according to the titles, he ordered that they return to the mother [*acequia*] and install a yellow post that allowed only 5 *riegos* to enter.⁶⁰

At *bocas* up and down the *acequia*, a *maestre de campo* placed more yellow posts

⁵⁷ See entry for 11 January 1577 in Consejo de Lima, *Libros de Cabildos*, 8:385.

⁵⁸ Nicolas P. Cushner, *Lords of the Land: Sugar, Wine, and Jesuit Estates of Coastal Peru, 1600-1767* (Albany: State University of New York Press, 1980), 34.

⁵⁹ Archivo General de la Nación del Perú, CA-JA 1, CAJ, 211, Doc. 2 ff. 1r-7v "Testimonio de los autos del Protector General en nombre de los del Pueblo de Santiago de Surco," (6 octubre 1633)

⁶⁰ Llegóse a la boca de acequia de la chacara que llaman la pólvora y viendo que estaba muy grande observancia el dicho juez mandó al dicho barra midiese y habiendo la medido halló que entraba por la dicha boca treinta y seis riegos de agua y no teniendo más de cinco mándose vuelvan del de la dicha madre y que se le ponga la boca o palo amarillo para que se cargue dejando en los cinco riegos que tiene. AGN, CA-JA 1, CAJ 211, DOC 4 ff. 8v-9r "Testimonios de los autos que siguieron el Cacique e indios del pueblos de Santiago de Surco" (1672).

poles, measuring the volume of water flow.⁶¹ Depending on his findings, he altered the intake gate to a particular property accordingly.

In all of these debates, water usage is portrayed as an inalienable right belonging to a widespread network of irrigators. Water was central to their way of life and the wellbeing of the republic and the municipal government prioritized its administration. Acequias played an essential role in Lima's public health program. Water surrounded the city and as a result, became an ominous force when contaminated.

2.4 Sanitation

The *cabildo* built memorials commemorating its control over water the water supply. The completion of a public fountain culminated with a celebration, such as the one that took place in December 1578. After a brief demonstration, onlookers were caught up in a cacophony of friendly gunfire, trumpets, shawms, and the clinking of coins thrown by the fistful into the crowd.⁶² The ruckus concluded with several bullfights. For participants, the dedication would not soon be forgotten.⁶³ The spectacle memorialized the town government's administration of the hydraulic network.

Pollution undermined the *cabildo*'s authority because it contaminated a resource that they supposedly controlled. Two factors undermined the central fountain. First, Indians contaminated its open-air conduits. According to the *cabildo*

⁶¹ Ibid.

⁶² Shawms are a double reed instrument.

⁶³ 18 December 1578 in Consejo de Lima, *Libros de Cabildos*, 8:690.

records, the Indians “...[d]ump dirt into the water and break the openings where they need to be cleaned...”⁶⁴ In response, the *cabildo* asked Gamara to cover the channels.

Second, the fountainhead lay too close to agricultural tracts:

...[A]s a result of farmland that is near the source of the water that comes to the fountain of this city, you can see from experience that the land is squeezed in such a way that the fountain sometimes lacks water. And this was the principal reason that the fountain was built, so that water would not be lacking....to remedy this and to make sure that the great sum of money spent on this work is not lost....and for the health of the *vecinos* and *moradores* of this city...we order that five *fanegadas* of land be taken away near the source [of the water] from the fields of Juan Tabara, and [that it extend toward] the river...⁶⁵

Spanish officials made a larger clearing by seizing private lands. Colonial laws permitted the state to exercise eminent domain over lands required for public use.⁶⁶

Given the risk of unclean waters to Lima’s health, the *cabildo* extended its jurisdiction over all water resources for the common good of the republic. Polluted waters produced pungent smells. Foreboding airs wafted along streets and homes making their way into noses and lungs. As Rebecca Earle found in her study of food and the body in Latin America, urban elites believed humans were porous creatures,

⁶⁴ Porque los indios echaran inmundicias en la agua y que quebraran e dañaran las bocas por dónde se ha de limpiar. See entry for 14 July 1572 in Consejo de Lima, *Libros de Cabildos*, 7:314.

⁶⁵ En este ayuntamiento se trató como a causa de haberse labrado la tierra que está junto al nacimiento de la fuente que viene a esta ciudad se había apretado la tierra de tal manera que se ve por experiencia que la falta de faltar alguna vez agua en la fuente era esta porque al principio que se hizo la dicha fuente jamás faltó agua por haber mucho monte de caña y otros arboles al rededor de la dicha fuente y nacimiento del agua e para que se remedie e no se pierda una obra en que se ha gastado tanta suma de plata....resultando tanto bien a la salud de los vecinos/moradores desta ciudad...mandaron que se tomen 5 fanegadas de tierra al rededor de la dicha fuente desde la chacara de Juan Tabara hacia el río. 16 June 1581 in Consejo de Lima, *Libros de Cabildos*, 9: 398.

⁶⁶ Tomaso Fernando, “Global Land Grabbing: A Tale of Three Legal Homogenizations,” *Private International Law and Global Governance*, in *Private and International Law and Global Governance*, ed. Horatia Muir Watt, et al. (Oxford: Oxford University Press, 2014) 72 and Luis Reygadas, “The Construction of Latin American Inequality,” *Indelible Inequalities in Latin America: Insights from History Politics, and Culture*, ed. Paul Gootenberg, et al. (Durham: Duke University Press, 2010), 48.

susceptible to the humors they encountered daily. Ironically, this proved much later in modern medicine to be true- although not for the reasons related to humors and miasmas as early-modern people thought. Like mutable canvases, European, Indigenous, and African bodies transformed in response to their environs.⁶⁷ By controlling the water supply, town councilmen possessed the power to shape the urban environment and engineer a healthier landscape.

Lima's residents lived alongside the water supply, and this closeness introduced intentional and unintentional byproducts into the hydraulic network. Yards and *acequias* became makeshift dumping grounds for dirty water, trash, dung, and debris. Latrines leaked into canals that neighbors used for washing clothes, dishes, pots, and pans. And sometimes, instead of carting waste to the nearest dunghill, denizens favored the convenience of irrigation canals. Councilmen did not approve of residents treating waterways as depositories. Instead, they asked homeowners to share the burden of canal sanitation.⁶⁸ Councilmen compelled homeowners to install iron grates that filtered passing debris.⁶⁹ Every lot had at least two grates: one where water entered and one where it left. An official oversaw their placement, repair, and removal.⁷⁰ The Council of the Indies augmented municipal laws, and held denizens responsible for the sewage or filth oozing from their property into streets and canals.⁷¹

⁶⁷ Rebecca Earle, *Body of the Conquistador*, 15.

⁶⁸ See entry for 22 October 1549 in Consejo de Lima, *Libros de Cabildos*, 4:189.

⁶⁹ See entry for 28 February 1550 in *ibid.*, 286.

⁷⁰ *Ibid.*

⁷¹ See entry for 19 November in Consejo de Lima, *Libros de Cabildos*, 1:53.

Councilmen turned to coerced labor to clean canals and build an alternative infrastructure. The *cabildo* ordained cleanups beginning as early as June 1536. Whenever water pollution became a public nuisance, they employed coerced laborers. In the second half of the sixteenth century, the *cabildo* pulled laborers from the indigenous *mita de plaza*. The *mita* drew Indians from rural provinces to work in Lima and its environs. The *mita* appears to have worked well enough from about the 1560s to 1583, when councilmen became more desperate to find laborers. A report from 1583 explains, "...The city is very dirty because the *acequias* are badly backed up and spilling over. Therefore it is necessary to remedy the matter."⁷² At that time, councilmen proposed taking Indian laborers from the shrimping community of San Pedro, who had previously been exempt from *mita* duty.⁷³

In cities such as Seville, Spain and Santiago, Chile, municipal leaders wrestled with similar challenges, and in particular how to engineer the civic water supply so that it flowed from outside the city into the central plaza. In Seville, lead pipes conducted water underground from an aqueduct located outside the city gate. Similarly, Santiago's town council used underground canals to supply the city's main plaza. There, councilmen declared clean water necessary to "...[p]reserve the health of the commonwealth [*común*]."⁷⁴ Water usage was a basic right of Spain's American colonists.

⁷² Como la ciudad estaba muy sucia a causa de estar las acequias muy mal paradas y desbaratadas e convenía que se remediase. See entry for 11 January 1583 in Consejo de Lima, *Libros de Cabildos*, 9:623.

⁷³ See entry for 4 February 1583 in *Ibid.*, 637.

⁷⁴ Para conservar la salud del común. Gonzalo Piwonka, *Las Aguas de Santiago, 1541-1999: The first Two Hundred years, 1541-1741* (Santiago: Editorial Universitaria, 1999), 104.

Of all the environment's features, water was perhaps one of the most threatening to the health of the city. Residents could not avoid water as they might a dunghill or a butcher shop on a hot afternoon. *Acequias* connected the river, the *traza*, fields and orchards to one another. If water became unsuitable in one area it quickly spread noxious airs that permeated colonial bodies. A healthy city needed an uncontaminated water supply, a fact that compelled Lima's urban elites to build fountains and an aqueduct. The town council proclaimed in 1553:

For the common good and health of everyone, it is agreeable to build a fountain in the city where [the people] collect their water, because what they are presently drinking is melted snow off the mountains and it comes in turbid floods from which diseases have followed.⁷⁵

The *cabildo* hired Francisco de Gamarra, a free black mason, to oversee the construction of the central fountain, storage tanks, and water mains.⁷⁶ Gamarra contracted men to construct reservoirs and underground conduits leading to the fountain, plazas, private patios, and other reservoirs.⁷⁷ Construction began in 1565, and over the course of nine years, a dozen slaves worked on the project.⁷⁸

The expansion of the central fountain's infrastructure came up in the 1580s when the Rímac River became so polluted it made people physically ill. Physicians living in the City of Kings claimed the river caused numerous illnesses such as runny

⁷⁵ En este cabildo se platicó que por quanto a el bien común y salud de toda la gente conviene que haya en ella fuente o Fuentes de dónde se coja agua limpia y de matinal porque en algunos tiempos del año la que viene por el río desta ciudad de que al presente bebe es de nieves derretidos de las sierras y por las avenidas viene turbia de que se siguen y han seguido enfermedades. 15 January 1552 in Consejo de Lima, *Libros de Cabildos*, 4:507.

⁷⁶ Frederick Bowser, *The African Slave in Colonial Peru*, 129.

⁷⁷ Stephen Webre, "Water and Society in a Spanish American City: Santiago de Guatemala, 1555-1773," *The Hispanic American Historical Review* 70:1 (1990): 61.

⁷⁸ *Ibid.*

noses, aches, colds, and asthma.⁷⁹ Miasma theory reinforced the link between dirty water and illness, encouraging elites to keep latrine runoff and rubbish out of the civic water supply. Heeding these warnings, in 1582 Viceroy Conde de Nieva planned the construction of an aqueduct made from limestone and brick. According to the proposal, the aqueduct would carry water from a clean source (located three-quarters of a league away) to a storage tank.⁸⁰ From the tank, water could be redistributed to other areas of the city.

Not all of Lima's neighborhoods, however, enjoyed easy access to a clean source of water. The further one lived away from the city center, the more difficult it became to find potable water. Where municipal water campaigns fell short, black porters picked up the slack. Given that the *acequias* could not be trusted for drinking, clean water had to be collected, carried, and purchased. Free black men carved pit a regular clientele for themselves, so much so that by the mid-seventeenth century, they formed their own guild.⁸¹ Entrepreneurs found the weaknesses in the civic water supply and targeted neighborhoods that lacked sufficient access. In Mexico City, porters sold this precious resource at inflated prices to Indians in Santiago Tlatelolco, a notoriously poor neighborhood.⁸² In Lima as in Mexico City, clean water became a class indicator. Wealthier residents enjoyed better access to potable water because

⁷⁹ Bernabé Cobo, *Historia de la fundación de Lima*, 65. And they were right to suspect water, since as many as seventy percent of all diseases are waterborne. Mira Shiva, "Environmental Degradation and Subversion of Health," in *Close to Home: Women Reconnect Ecology, Health and Development*, ed. Vandana Shiva (London: Earthscan Publications Limited, 1994), 64.

⁸⁰ Bernabé Cobo, *Historia de la fundación de Lima*, 65.

⁸¹ Frederick Bowser, *African Slave*, 108.

⁸² Sharon Glasco, *Constructing Mexico City*, 77.

they lived closer to central fountains and in some cases they could afford private reservoirs.

Apart from fountains, the local government regulated the pollution of irrigation canals. On one occasion, town councilmen found themselves at odds with a group of Franciscan friars who placed a row of latrines alongside a water canal. It might have gone unnoticed if the wastewater did not flow directly into the central marketplace. Shoppers rushing about their day noticed a foul smell hovering by the grain stalls. Upon closer inspection, they realized it was coming from the *acequia*. Town councilmen ordered the friars to cover the latrines, relocate them, and re-route any overflow away from the *acequias* and the river.⁸³ Shortly thereafter, the *cabildo* prohibited any monastery in Lima from allowing its trash or sewage to run into the *acequias*. The *cabildo* advised:

Regarding the water in the *acequias* that flow from the monasteries and other parts to the river, they are very inconvenient for the large amount of rubbish, latrines, and other things that fall into the river. Therefore it is agreed to remove all of the monasteries' *acequias*...that drain into the river....⁸⁴

Dirty water released dangerous airs and corrupted public welfare; consequently councilmen also passed protections for the Rímac River.

The riverbank was a popular area where residents gathered, washed clothes, scrubbed pots and pans, and caught up on the latest gossip. But these quotidian uses left behind residues that undermined its purity. In response, councilmen targeted

⁸³ See entry for 4 February 1558 in AHML, Consejo de Lima, *Libros de Cabildos*, 5: f. 20v.

⁸⁴ Se trató que de ir el agua de las acequias que salen de los monasterios y otras partes al río hay en ello mucho inconveniente por las muchas vaciedades y letrinas y de otras partes que caen en el río lo cual conviene remediar atento lo cual se mandó que todas las acequias que de monasterio e otra parte salieron a desaguar al río se quiten sin quedar ninguno...31 March 1560 in Consejo de Lima, *Libros de Cabildos*, 6:291.

washerwomen and farmers, limiting where and how they could use the river. “The republic is harmed by the women, both black and Indian, and other people who wash rags in the river...at the part where people gather their drinking water.”⁸⁵ Groups of washerwomen showed up at the same place everyday to wash clothes and linens. To stop what municipal leaders interpreted as the contamination of the water supply, they forced the women to move their operation downriver, east of Santo Domingo church. In 1551, Emperor Charles I issued an ordinance to keep the river clean because so many people drank from it.⁸⁶ For that same reason, the town council also banned farmers from floating flaxseed and hemp harvests from Lima to Callao.⁸⁷

2.5 Separation

Municipal leaders managed Lima’s waterways to protect public health with policies that simultaneously benefited local elites. The Rímac River became a natural barrier dividing Lima into two parts: healthy and unhealthy. The northern bank directly across from the city center became a haven for Lima’s outcasts. Nicknamed New Triana, a group of fishermen became its first residents in 1538.⁸⁸ As in its namesake in Seville, a bridge (located one block west of the *plaza mayor*) linked this neighborhood to the city center. It is probable that Indians constructed the original

⁸⁵ En este cabildo se trató de la Republica recibe daño de las negras e indias y otras personas que lavan paños en el río los lavan en parte dónde se coge el agua para beber. See entry for 25 June 1557 in Consejo de Lima, *Libros de Cabildos*, 5:626.

⁸⁶ See entry for 19 November 1551 in Consejo de Lima, *Libros de Cabildos*, 1:614.

⁸⁷ See entry for 5 May 1570 in AHML, Consejo de Lima, *Libros de Cabildos*, 6: f. 6r.

⁸⁸ Domingo Angulo, “Notas y monografías para la historia del barrio de San Lázaro de la ciudad de Lima: origen y principios del barrio de San Lázaro,” *Revista Histórica* (Lima: E.R. Villaran, 1917), 273.

rope bridge well before the arrival of the Spanish. When it wore out by 1554 it was remade from brick and limestone. A second bridge aided municipal leaders in getting indigenous laborers in and out of the city center. Conquistador-settler Ventura Beltrán donated indigenous labor to the *cabildo* so that they would build a bridge connecting his *encomienda* in Guavra to the city.⁸⁹

Even though the absence of causeways resulted in several deaths each year, it was not until the mid-sixteenth-century that the *cabildo* linked the San Lázaro to the Rímac's southern bank.⁹⁰ Don Jerónimo de Aliaga led the initiative, but the first incarnation was so narrow that only one person on foot could cross at a time, and it was impassible for carts and animals.⁹¹ Later, Viceroy Marqués de Cañete authorized the construction of a bridge made from brick and limestone, but that project did not wrap up until 1562.⁹²

Despite the physical connection via the bridge, San Lázaro remained socially marginalized. After floods destroyed part of the neighborhood, the *cabildo* focused on reinforcing the riverbank rather than rebuilding the community.⁹³ This is not too surprising given the fact that San Lázaro harbored Lima's less desirable residents. By the early seventeenth century, San Lázaro housed a leper hospital, plague hospital, and quarantine quarters for newly arrived slaves.

Although at the time pathogens were poorly understood, municipal officials

⁸⁹ 21 May 1549 in Consejo de Lima, *Libros de Cabildos*, 4:109.

⁹⁰ 23 January 1550 in *Ibid.*, 252.

⁹¹ Domingo Angulo, "Notas y monografías," 274.

⁹² *Ibid.*

⁹³ Consejo de Lima, *Libros de Cabildos*, 7:469; Consejo de Lima, *Libros de Cabildos*, 8:38; Consejo de Lima, *Libros de Cabildos*, 9:68; and Bernabé Cobo, *Historia de la fundación*, 60-61.

discerned a correlation between the proximity to diseased persons and the spread of *pestes* [plagues or epidemics]. For those reasons, town councilmen intentionally sent dangerous populations to live across the river. When it was founded in 1563, the location selected reveals how humor theory applied to contagious populations. Bad humors from leper victims spread through contact with air, clothing, and bed linens. Once inhaled, the bodily humors became unbalanced, causing illness. By placing the leper hospital on the other side of the river, Lima's elites ensured that leper miasmas would be kept away from the city center. This is yet another example of town councilmen acting in ways that reduced disease outbreaks, even though their decision was based on inaccurate information.

Isolation measures surfaced again during the foundation of a second Indian hospital created in response to plague epidemics in the late sixteenth.⁹⁴ The *cabildo* worried that smallpox victims seeking treatment in the city center put more people at risk. Although they did not precisely understand the vectors of smallpox disease, their concerns were well founded. Smallpox spreads through direct and indirect contact, either in saliva droplets expelled by coughing, sneezing, speaking and breathing or via inanimate objects such as clothing and bedding. The town council suggested building a second Indian hospital in the San Lázaro neighborhood. To begin, the *cabildo* hired an alderman, physician, and barber. San Lázaro neighborhood became a place to banish diseased peoples who might otherwise harm the health of the Republic.

The smallpox outbreak in 1589 became a widespread epidemic, bringing

⁹⁴ Seen entry for 31 May 1589 in *ibid.*, 112.

suffering, disease, and death to the far corners of Peru. One particularly graphic account captures how smallpox disfigured human bodies to the south of Lima in Arequipa. The witness testified that the epidemic began with a headache, high fever, and kidney pain. After a few days, bloody stools appeared. Some victims walked the streets naked in an attempt to let the bad humor escape. But these attempts were usually futile, and the sickness remained trapped inside the body. Victims became so horribly disfigured that they resembled trees more than men:

Their entire body looked as if it might burst, just like a repulsive leper, you could not see their eyes. Their faces were so swollen that their cheeks touched their eyebrows, leaving them with sunken eyes that could not see again. They were so deformed that they did not resemble the human figure; you could barely see signs of their ears, noses, or mouth...they resembled wood or trunks more than human bodies⁹⁵

City officials attributed this devastating outbreak to the recent arrival of African slaves from Panama, and noted that the primary victims were Indians, *mestizos*, and *mozos* [the young] who were either skinny or unhealthy from their excessive sensuality.⁹⁶

Councilmen isolated dangerous populations on the northern bank of the river to concentrate illnesses there. Municipal officials blamed many epidemics on African slaves, and therefore they represent the third group of people that Lima's *cabildo* restricted. After traveling in close quarters across the Atlantic Ocean, captives

⁹⁵ En todo el cuerpo dónde poner la punta de un alfiler que no estuviese cuando después de reventadas todo el cuerpo se cubría de una cosa a manera de lepra tan asquerosa que no había ojos que les pudiesen ver, hínchase de suerte que sus mejillas se les venían a juntar con las cejas dejándoles los ojo hundidos sin ver más que sino los tuvieran por tan disformes que no les quedaba figura humana a penas se les podía ver señal de oídos, narices, ni boca, sino es por la pobre que les mandaba de ellos con la cual resuelta lo que comían más parecían maderos o trozos que cuerpos de hombres. BNP, LAS_MGP, 29:48, "De la compañía de Jesús y tiempo de su fundación con los sucesos calamitoso que han habido en esta ciudad de Arequipa," (9 May 1816).

⁹⁶ Ibid.

became incubators for diseases such as yellow fever. Aware that immigrants could spread illness, councilmen took precautionary measures to safeguard the city from a potential epidemic. In the early seventeenth century, Lima's *cabildo* asked the city's physicians to greet a fleet of ships arriving in Callao. Before the nearly 1800 slaves disembarked, councilmen wanted them inspected to prevent the spread of "evil contagions."⁹⁷ The next problem became what to do with those slaves before they were sold. Concerned that human cargo might infect the general population, the council arranged the construction of new quarantine quarters, "[o]n the other side of the Rímac River in the San Lázaro district, near the slaughterhouse, which was far enough away from the town for the wind to carry the 'corrupted air' in the opposite direction..."⁹⁸ With slaves, lepers, and plague victims the Rímac became a natural barrier between two neighborhoods: the protected city center and its buffer San Lázaro.

San Lázaro's riverbank also became a literal dumping ground for waste produced by butchers and tanners. The physical barrier between Lima and San Lázaro did not shield the city from their sludge. Alarmed by this runoff, most of which into the river, the *cabildo* maintained, "There is a lot of filth in the streets and *acequias* of the city, and where the butchers dump their carcasses it produces a terrible smell that causes many illnesses."⁹⁹ Terrible smells were the telltale sign that something was

⁹⁷ 14 February 1620 in Consejo de Lima, *Libros de Cabildos*, 18:792.

⁹⁸ Frederick Bowser, *The African Slave*, 67.

⁹⁹ Que a causa de la mucha suciedad que había en las calles y acequias de las matadores que había dónde se echaban rojas inmundicias y de mal olor se entendía que resultaban muchos enfermedades del. 14 July 1582 in AHML, *Cédulas y provisiones desta ciudad de los Reyes, que comienza el año de 1581* 2:f. 21v.

amiss. Rotting flesh and blood could not continue to mix with the water supply. At another meeting, Jerónimo de Silva informed his colleagues that the tanneries owned by Francisco Martínez and others contaminated the *acequias*. Silva proposed that the tanneries relocate to the coast because “...the water that leaves that area cannot hurt or harm the city.”¹⁰⁰ In Silva’s view, the coast made the most sense because it removed pollutants from the immediate city. The only water that mattered was that which could affect the air, lungs, and bodies of local residents. Councilmen did not agree, and over time, small reforms were implemented such as constructing retaining walls.¹⁰¹ This plan really only saw to the health of the city center, with little concern for the people living in San Lázaro.

Lima’s public health agenda combined legislation, administration, and geography to prevent the spread of illness. Its key programs aimed to keep residents safe from an unhealthy water supply, and especially the noxious airs created by polluted *acequias*. These policies divided Lima by social status and physical conditions. In San Lázaro, councilmen exiled contagions, lepers, butchers, tanners, and newly arrived African slaves. Although councilmen pledged to protect the health of the city and the republic, it seems within Lima itself, this agenda emphasized the wellbeing of those living on the southern bank.

¹⁰⁰ Que allí se haga porque el agua de allí saliere no puede hacer daño ni perjuicio a la ciudad. See entry for 6 February 1553 in Consejo de Lima, *Libros de Cabildos*, 4:654.

¹⁰¹ See entry for 31 March 1560 in Consejo de Lima, *Libros de Cabildos*, 6:298.

2.6 Conclusion

Lima rose from the sandy soils of an arid, coastal desert with an intermittent water supply. From the moment of foundation, to about the mid seventeenth century, water became a central feature in the administration of colonial Lima. Both the Spanish city and the indigenous pueblos surrounding it required and received access to water. The municipal government negotiated human relationships to the irrigation network, often in a tense or conflict driven way.

While there were multiple jurisdictions, *cabildo* claimed priority and for the most part succeeded because it presented water policy as a public health policy. The common good, a virtue discussed repeatedly by municipal leaders became the rallying point for municipal control over water distribution within Lima and the Rímac River Valley. This resource justified the *cabildo*'s management of irrigators, pollution, and the use of the Rímac River as a natural barrier.

CHAPTER 3

URBAN HOSPITALS

3.1 Introduction

When people with sick bodies ran out of options, they sought refuge in urban hospitals. Hospitals provided shelter, food, warmth, and spiritual guidance to those who came to heal and those who came to die. People from diverse backgrounds were admitted to Lima's hospitals, and many came because they lacked strong familial or financial resources. Migrants, travelers, and the poor filled patient log books.

Administrators at Santa Ana, the indigenous hospital, observed that Indians from various parts of the Americas took up residency there: "In this hospital we cure a large quantity of male and female Indians who come from all over these kingdoms and provinces for business and other matters that require them to reside in Lima."¹

Ledgers at San Andrés, the Spanish hospital, reveals a similar trend; patient registers for May 1609 show that of the 89 people admitted that month, only seven listed Lima as their place of origin (see table 3.1).

¹ BNP, B822, s.f. "Expediente sobre la petición presentada por Francisco López de Cepeda, Mayordomo Que en el dicho hospital se curan mucha cantidad de indios e indias por venir a ella de todos estos reinos y provincias a negocios y otras cosas que tienen respecto a de residir en ella y administrador del Hospital de los Naturales de Santa Ana," (9 junio 1622).

TABLE 3.1
ORIGIN OF PATIENTS ADMITTED TO HOSPITAL SAN ANDRÉS
MAY 1609²

Region	Number of People
Lima	5
Other regions of Peru (Arequipa, Trujillo, Cuzco, Jauja and others.)	10
Mexico (Villa Rica, Mexico City and Albuquerque)	3
South America (Bogota, Quito, Cartagena, Quevar)	5
Spain (Torrijos, Colmenar, Écija, Ronda, Trujillo, Lepe, Granada, Cáceres, Huelva, Aragón, Castilla, Galicia, Asturias, Sevilla, Cádiz, Cantabria, Medina del Campo, Guipúzcoa, Triana, La Frejereda, Zamora, and others)	44
Other areas (Lisbon, Vargos, Génova, Isla Tercería, Santa en Este, Algeria, Conspicua, and others)	22

² Source: BNP, B1563, ff.1r-4v “Se escriben y asientan los enfermos que entrar a curar con memoria de los que mueren en este Hospital Real del Señor San Andrés de los Españoles,”(1609).

The rest came from Peru's provinces, and the majority identified homelands in Iberia including Granada, Trujillo, Cadiz, Zamora, Seville, Cantabria, and Asturias.³ In the span of just one month, the men who walked through the doors of Hospital San Andrés represented diverse origins from across Western Europe, North Africa, and Central and South America.

The art of healing revolved around three points: the miasma theory of disease, humor theory, and spirituality. Physicians believed that an individual's overall state was based upon the interaction and balance of the four humors: blood, black bile, yellow bile, and phlegm. Essentially, bodily fluids determined a person's health, personality and behaviors. Illness ensued when the humors became imbalanced. Therefore, an important component of healing entailed restoring humors to the appropriate levels.⁴ In other words, the excess or shortage of any one component could cause illness. Religious instruction and rituals complemented medical treatment. The soul and the body were interconnected, and without a clean conscience, wellness remained at bay. These ideas influenced both the design of hospitals and the nature of patient care.

When people showed up on campus, the staff acted as gatekeepers, sorting through potential patients and admitting them for treatment. Hospital staff separated patients according to social status, gender, race, and physical conditions because the bodies of blacks, Indians, Spaniards, elites, the elderly and women were unique and

³ Ibid.

⁴ Guido Majno, *The Healing Hand: Man and Wound in the Ancient World* (Cambridge: Harvard University Press, 1991), 178.

required alternative treatments. Social categories corresponded to specific humor values. For example, youth were attributed with life-giving properties of heat and moisture while elderly bodies became colder and dryer with time. Armed with this corporeal knowledge, staff members assigned patients to a ward, room, and bed, all of which they carefully recorded.⁵ Santa Ana's intake records noted all of the patients admitted, the date and reason, names, place of origin, *ayllu*, civil status, *repartimiento*, condition, treatment, and date of discharge or death.⁶ Admittance to the hospitals was the time at which a first evaluation of the body was made; the moment when staff members applied knowledge of health and the body to determine the best placement for each individual.

There is a large corpus of literature examining early-modern hospitals and medical practice, especially in their European context. This scholarship emphasizes two trends: how cities used hospitals to manage epidemics and how municipal governments coopted hospitals into public discourses about modernity and the nation state.⁷ This chapter offers something new to the discussion because it moves beyond these paradigms to consider how hospitals enclosed and controlled colonial bodies and how urban elites promoted their own health objectives within these facilities.

⁵ "Reglas de funcionamiento," in *El Hospital Refugio de Incurables "Santo Toribio de Mogrovejo" de Lima: hoy Instituto Nacional de Ciencias Neurológicas: evolución histórica, 1669 a 1997*, ed. Miguel Rabi-Chara (Lima: Indecopi, 1997), 73.

⁶ "Reglas de funcionamiento," in Miguel Rabi-Chara, *Del Hospital de Santa Ana (1549 a 1-24) al hospital nacional "Arzobispo Loayza" (1925-1999): 450 años de protección de la salud de las personas* (Lima: INDECOPI, 1999), 73 and 75.

⁷ John T. Alexander, *Bubonic Plague in Early Modern Russia: Public Health and Urban Disaster* (Oxford: Oxford University Press, 2003); Heather McCreia, *Diseased Relations*; Tricia Starks, *The Body Soviet: Propaganda, Hygiene, and the Revolutionary State* (Madison: Wisconsin, 2008); and Jane L. Stevens Crawshaw, *Plague Hospitals*.

Political and institutional historians have examined the relationship between municipal hospitals and disease. Scholars such as Jane L. Crawshaw, Mary Lindemann, and John Alexander and Kristy Bowers have demonstrated how municipal governments banished diseased population to hospitals to protect urban centers such as Venice, Florence, Moscow and Seville in the fifteenth and sixteenth centuries.⁸ Public health scholars of Latin America's national period found that as different counties formed national governments, they simultaneously created public health programs. Historical and anthropological studies of nineteenth-century Yucatan and Argentina and twentieth-century Cuba and Haiti suggest that newly emerging nation-states used public health as a way to promote modernity and citizenship in Latin America.⁹ Pamela Voekel's work on late-eighteenth-century Mexico focuses on the transformation of burial practices from churchyards to suburban cemeteries. She argues that Bourbon bureaucrats did this in order to weaken the economic and political power of the church and promote an image of citizenship based on the sovereignty of the state and legal equality.¹⁰ These studies make important contributions to the historiography, but they have not yet addressed the central question of how municipal governments and non-medical bureaucrats

⁸ John Alexander, *Bubonic Plague*; Kristy Bowers, *Plague and Public Health*; Jane L. Crashaw, *Plague Hospitals*; and Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 1999).

⁹ Diego Armus, *Disease in the History of Modern Latin America: From Malaria to AIDS* (Durham: Duke University Press, 2003); Paul Farmer and Arachu Castro, "Pearls of the Antilles? Public Health in Haiti and Cuba," in *Unhealthy Health Policy: A Critical Anthropological Examination* (Walnut Creek: Altamira Press, 2004); Heather McCrea, *Diseased Relations*; and Ricardo D. Salvatore, "Between Empleomanía and the Common Good: Expert Bureaucracies in Argentina (1870-1930)," in *State in Nation Making in Latin America and Spain: Republics of the Possible*, ed. Miguel A. Centeno, et al. (Cambridge: Cambridge University Press, 2014).

¹⁰ Pamela Voekel, *Alone Before God*, 9.

intervened directly in patient care and how the hospital environment reflected discourses about body politics.

Hospital campuses created a network of microenvironments, targeted to specific body types. These microenvironments absorbed people off of the streets and stopped them from becoming a public health hazard. Moreover, municipal and royal officials mediated certain standards for those microenvironments, revealing small, but nonetheless important ways the local municipal government participated in hospitals and contributed to patient care. I discuss this process in four sections that address architecture, specialized institutions, patients, and patient care.

3.2 The Architecture of Hospital San Andrés

Hospitals contained multiple chambers, bedrooms, hallways, nooks, and courtyards. Every space served a medical purpose. Hospital staff split patients into different rooms, categorized by their physical condition, gender, and social status. Persons with similar body types and humoral imbalances shared the same areas. Each space created a microenvironment of optimized patient care.¹¹ At San Andrés, European men used most of its rooms. But there were other quarters dedicated to the needs of women and people of African descent.

¹¹ In the mid sixteenth century, San Andrés had at least fifty people in residence.

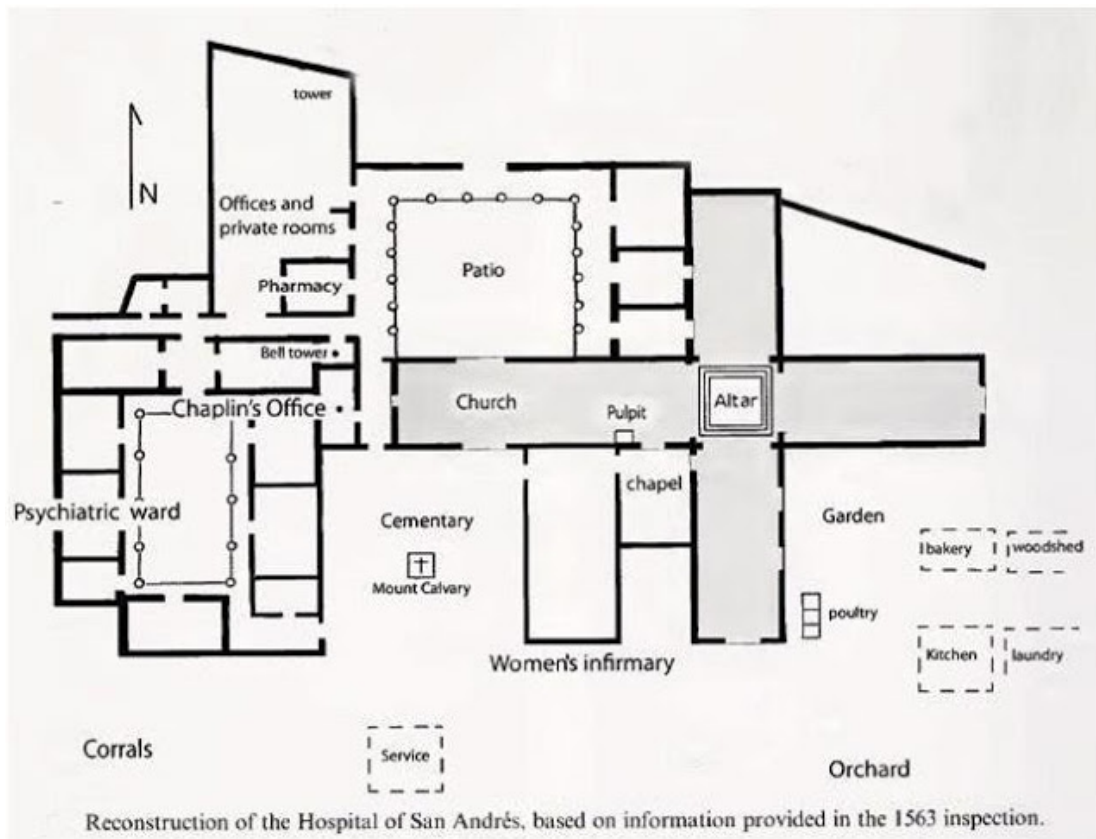


Figure 3. 1 Reconstruction of Hospital San Andrés
SOURCE: Brian S. Bauer and Antonio Coello Rodríguez, “The Hospital of San Andrés (Lima, Peru) and the Search for the Royal Mummies of the Incas,”
Anthropology 39 (2007).

Sebastian Santander, San Andrés’ *mayordomo* wrote to the king in May 1566 describing San Andrés’ campus and services. Santander wanted to illustrate the hospital’s merit to the colonial enterprise. This type of letter was an important step in a cycle of correspondence that simultaneously acknowledged the Crown’s financial generosity and requested more assistance. Like San Andrés, most of Lima’s hospitals received royal subsidies, amounting to an average of 1,000-2,000 pesos annually.¹² In

¹² AGI, Lima, 122, s.f. “Carta de Juan García al Consejo de Indias,” (14 octubre 1578); AGI Lima, 122, f. 11r. “Carta de Diego Pérez al Rey,” (2 octubre 1578); AGI, Lima, 126, N.1, f. 3r “Carta de Domingo de Garro contador de la real hacienda a su Majestad,” (23 marzo 1582); AGI, Lima, 1, N.

addition to money, the Crown might donate food, lamp oil, wine, candles, and other supplies over a period of several years.

Santander's description began with the most prominent design feature: a cruciform church. Where two long halls intersected sat the church's chapel, elevated so patients could hear and see mass from their beds. Four brick, Roman-style arches surrounded the chapel, each leading to a different section. On the western archway hung the royal coat of arms and a metallic angel attached to a tin capital. "Very curious paintings" embellished the other archways.¹³ Outside the church, a bell clock shaped like the bust of a gunman kept time. A sacristy led to the cemetery adorned with a Mount Calvary monument at its center.

The other principal feature of the hospital's first floor was the main entrance. To enter, patients passed through a patio and one of three brick archways. Each portal led to a different section. One led to the apothecary, the infirmaries and the church. A second connected to the psychiatric ward (*casa de los locos*), which at the time had seven patients who "appeared crazy."¹⁴ And the third opened up to a large stable where the hospital kept some livestock and additional living quarters.

60, f. 90r "Cierta merced al hospital de los españoles de la ciudad de los reyes," (21 marzo 1584); AGI, Lima, 1, N. 172, f. 403r "Lo que parece cerca de la pretensión de los mayordomos y hermanos del hospital de los españoles de la ciudad de los Reyes al Consejo de Indias," (25 enero 1597); AGI, Lima, 1, N. 60, f. 90r "Cierta merced al hospital de los españoles de la ciudad de los reyes," (21 marzo 1584); AGN, Derecho Indígena y Encomiendas, L.3, C. 31, ff. 8r-8v "Testimonio de las escrituras de obligación que Luis Delgado, mayordomo del hospital de Santa Ana, otorgó," (19 agosto 1589); AGI, Lima, 1, N. 172, f. 403r "Lo que parece cerca de la pretensión de los mayordomos y hermanos del hospital de los españoles de la ciudad de los reyes al Consejo de Indias," (25 enero 1597); AGI, Lima, 214, ff. 1r-32v "Informaciones: Hospital de San Andrés de los Españoles," (2 octubre 1602); AGI, Lima, 2, s.f. "Carta sobre Santa Ana al Consejo de Indias," (24 agosto 1605); and AGI, Lima, 36, N. 5, ff. 92r-93v "Carta del Marqués de Montes Claros," (9 abril 1612).

¹³ Hay ciertas pinturas muy curiosas. AGI, Lima, 131, N. 2, f. 3r "Carta de Sebastián de Santander sobre el hospital de los españoles en la Ciudad de los Reyes," (15 May 1566).

¹⁴ Ibid., f. 3v.

Once admitted, staff members led the patient to one of three main infirmaries. The smallest of the three, the female ward, held nine beds with mattresses, blankets, and pillows. Two windows overlooked a patio and garden.¹⁵ An attic space overhead contained two more beds and a corridor with windows facing the hospital's orchard. The second infirmary was much larger, with three rooms, fifteen beds, and an area to store wool and stuff mattresses.¹⁶ When describing the third infirmary, Santander indicates that it was much more lavishly decorated than the other two. Nine private bedrooms catered to an elite clientele. For example, Santander does not mention the décor of the other infirmaries, but his letter makes a point to mention the red damask curtains and velvet that draped around each bedframe.¹⁷ Two other rooms contained more beds with awnings and a wardrobe for the poor.¹⁸ In addition to the sick wards, there was also a kitchen with its own chimney and trestle and a patio with several stills for purifying water, a bread oven, and a corral to wash clothes in the *acequia*.¹⁹ The first floor housed patients and utilitarian rooms needed to sustain them. By contrast, the upper level contained only a few bedrooms and chamber.

The most notable features were three towers piercing the skyline. The first and third tower had jasper ledges painted with a Roman-style frieze, the royal coat of arms, and other imagery. Unfortunately, the towers' purpose is not clearly explained.

¹⁵ And enough space to assemble more beds. AGI, Lima, 131, N.2, f. 3r.

¹⁶ Ibid., f. 3v.

¹⁷ Dyed from cochineal. Ibid., f. 3v.

¹⁸ Ibid., f. 3v.

¹⁹ There was also a door on the patio wall that led to the street. Ibid. f. 3v.

However, we do know that they connected to other corridors with windows overlooking different areas.²⁰ Santander also mentions that one tower stored the corpses of wealthy patients who died while seeking treatment.²¹ Presumably, the bodies of poorer patients were kept elsewhere.

Santander details how hospitals created distinct environments to contain and control patient experiences. Two important points emerging from his account are the role of religion in healing and how hospital staff classified and boarded bodies. In the early-modern period, people believed that illness could stem from immoral behavior, because the body and soul were inextricable.²² To heal properly, one had to atone for sin, and the hospital's structure helped patients embrace Catholic prayers and practices. Urban hospitals were modeled after religious institutions and most renaissance hospitals had a church.²³ At the center of San Andrés was a church, a communal space that everyone enjoyed regardless of race, class or gender. The church was the one space that universally benefited everyone. Even those who were unable to physically move could listen from their beds. Hospital priests, chaplains, and laymen surrounded patients with spiritual guidance, offering numerous services from confession to the Last Rites.

²⁰ Ibid. f. 4v.

²¹ Ibid., f. 4r.

²² Tatjana Buklijas, "Medicine and Society in the Medieval Hospital," *Croat Medical Journal* 49 (2008): 152.

²³ John Henderson, *The Renaissance Hospital: Healing the Body and Healing the Soul* (New Haven: Yale University Press, 2006) and Nicolas Orme and Margaret Webster, *The English Hospital, 1070-1570* (New Haven: Yale University Press, 1995).

Illness and vulnerability spurred many to ponder death and put their affairs in order. Dying a “good death” was an important concept in early-modern Christianity.²⁴ What a good death entailed varied, but Catholics hoped that by preparing for the afterlife, when Judgment Day arrived, they would go to purgatory instead of hell.²⁵ The term came to embody new rituals and practices in colonial Latin America. Examples from Peru and New Spain indicate that this concept described how one prepared for death more so than what happened when they died. In seventeenth-century Peru for example, a “good death” involved preparing a will, disposing of worldly possessions, confessing any sins, and receiving extreme unction.²⁶ Studies of Spain, New Spain, and Peru suggest funerary rituals became increasingly important in the sixteenth and seventeenth centuries. Testators bequeathed funds to pay for postmortem mourners, masses, vigils, and elaborate burials.²⁷ At San Andrés, hospital staff encouraged patients to put their affairs in order and prepare for the afterlife.

According to the Catholic faith, death meant one of three outcomes: heaven, hell or purgatory. Although the soul departed earth, it could still benefit from worldly deeds. First, the dead needed the living to inter their body in consecrated grounds. Corpses were not automatically transferred to cemeteries. To receive a proper burial

²⁴ David Gentilcore, *Healers and Healing in Early Modern Italy* (Manchester: Manchester University Press, 1998), 186.

²⁵ Carlos M. N. Eire, *From Madrid to Purgatory: The Art and Craft of Dying in Sixteenth-Century Spain* (Cambridge: Cambridge University Press, 2002), 25.

²⁶ Carlos M.N. Eire, *From Madrid to Purgatory*, 25; Nancy van Deusen, “Ursula de Jesús: A Seventeenth-Century Afro-Peruvian Mystic,” in *The Human Tradition in Colonial Latin America* 2nd ed. (Lanham: Rowman & Littlefield Publishers, Inc., 2013), 113.

²⁷ Will de Chaparro and Miruna Achim, “From the Here to the Hereafter: An Introduction to Death And Dying,” in *Death and Dying in Colonial Spanish America* (Tucson: The University of Arizona Press, 2011), 7-8.

in a Catholic cemetery, individuals had to repent their sins and receive the holy sacrament before expiring. Men and women were usually buried in their respective parish cemeteries. But for those who lacked a parish, fixed household or guild or brotherhood membership, the hospital may have been one of the only interment options.²⁸ Second, the dead needed the living to carry out postmortem rituals. While the physical body remained with the hospital, the soul benefited from prayers and masses because they lessened its time in purgatory.²⁹ If patients left some or all of their wealth to the hospital, they expected staff and administrators to honor their memory.³⁰ Dying a good death was not the only reason that hospital administrators wished to make burial arrangements with patients: burials protected those left behind.

In the name of public health, municipal leaders instituted mandatory burials for all of Lima's residents, strictly forbidding the clandestine practice of abandoning indigenous and slave cadavers in streets and plazas.³¹ To leave cadavers lying about put countless lives at risk, as rotting flesh fumes were likened to eating the dead person in question. Miasma theory also indicated that corpses fared better in airtight spaces, such as underground, rather than catacombs where stagnant airs accumulated.

²⁸ Vanessa Harding, *The Dead and the Living in Paris and London, 1500-1670* (Cambridge: Cambridge University Press, 2002), 96 and James Casey, *Early Modern Spain: A Social History* (New York: Routledge, 1999), 127.

²⁹ Hospitals generated income through funeral services. Adam Warren, *Medicine and Politics in Colonial Peru*, 163 and Vanessa Harding, *The Dead and the Living in Paris and London*.

³⁰ For a discussion of bequests and burial practices in early-modern hospitals see Kristy Wilson Bowers, *Plague and Public Health*; Jane L. Stevens Crashaw, *Plague Hospitals*; Thomas Kotkas, *Royal Police Ordinances in Early Modern Sweden: The Emergence of Voluntaristic understanding of law* (Leiden: Koninklijke Brill NV, 2014); Mary Lindemann, *Medicine and Society in Early Modern Europe*; and Claudia Stein, *Negotiating the French Pox in Early Modern Germany*.

³¹ Consejo de Lima, *Libros de Cabildos* 1:36.

Adam Warren found in eighteenth-century Lima that some hospitals even designed mortuary buildings to contain the "...[f]etid smells caused by the many who are buried there."³² Thus, after the standard procession and funeral took place, hospital-employed gravediggers placed the body in its final resting place.³³

Hospital architecture reinforced early-modern healing theories. San Andrés' design created a specific spatial order according to gender, class, and physical state.³⁴ Separate areas existed for different types of bodies: the post-surgery body wrapped in dressing, the fevered body, women, the mad, and the wealthy.³⁵ San Andrés psychiatric ward boarded seven people, who according to Santander "appeared crazy."³⁶ The mad resided in private chambers and were kept in a separate section of the hospital.³⁷

Another area of the hospital contained private rooms for the wealthy, a fact reinforced by economic status and humoral theory. Wealthier patients had more resources to pay for services and bequeath. Corporeally, elite bodies were quite

³² Adam Warren, *Medicine and Politics in Colonial Peru*, 163.

³³ Luz María Hernández Sáenz, *Learning to Heal: The Medical Profession in Colonial Mexico* (New York: Peter Lang International Academic Publishers, 1997).

³⁴ Eunice D. Howe, "The Architecture of Institutionalism: Women's Space in Renaissance Hospitals," in *Architecture and the Politics of Gender in Early Modern Europe: Women and Gender in the Early Modern World*, ed. Helen Hills (Aldershot: Ashgate Publishing Limited, 2003), 63.

³⁵ Instituto Riva-Agüero, A-III-335, f.25v (1613).

³⁶ *Que parecían estar locos*. AGI, Lima, 131, f. 3v.

³⁷ Mental illness was a complicated issue during this period because medical professionals understood it as both a humoral and spiritual problem. On the one hand, physicians recommended that the insane eat foods that opposed their disposition. On the other hand, physicians also believed madness reflected a deeper moral weakness. In other words, sin could trigger insanity Ken Albala, *Eating Right in the Renaissance*, 117.

distinct from the poor, because they were physically stronger and less emotional.³⁸

Luis Lobera de Avila explained, “vulgar people” and “idiots” succumbed to their “passions,” because they had bland spirits and hearts.³⁹ When distraught, they resorted to crying and shouting, causing their faces to become feminine and childlike.⁴⁰ So extreme were their emotions that they could even die from excess happiness.⁴¹

The separation of men from women could be explained in humoral terms, but it had more to do with social norms.⁴² Bodily functions, including menstruation, lactation, sweat, tears, semen, and internal heat distinguished male from female.⁴³ Of all these elements, heat was one of the most important in making gender categories; men were considered hot and dry to the cold and moist female.⁴⁴ Heat was associated with strength whether manifested in intellectual, physical, or moral terms.⁴⁵ The lack

³⁸ Anna Waldstein, “How Can Ethnobotany Contribute to the History of Western Herbal Medicine? A Mesoamerican Answer,” in *Critical Approaches to the History of Western Herbal Medicine: From Classical Antiquity to the Early Modern Period*, ed. Susan Francia, et al. (London: Bloomsbury Academic, 2014), 281.

³⁹ Y aquí es que no hallarás pasiones que muden en gran manera al hombre si no es en la gente vulgar, idiota que carece deficiencia. Lobera de Avila, *Regimiento de la salud*, f. 8v.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Kathleen Myers, “The Mystic Triad in Colonial Mexican Nuns’ Discourse: Divine Author, Visionary Scribe and Clerical Mediator,” *Colonial Latin American Historical Review* 6:4 (1997): 483 and Gail Kern Paster, *The Body Embarrassed: Drama and the Disciplines of Shame in Early Modern England* (New York: Cornell University Press, 1993), 8-9.

⁴³ Breast milk and semen, for example, were both formed from blood. Jean E. Feerick, *Strangers in Blood: Relocating Race in the Renaissance* (Toronto: University of Toronto Press, 2010), 21 and 62.

⁴⁴ Tamara Harvey, *Figuring Modesty in Feminist Discourse Across the Americas* (Aldershot: Ashgate Publishing Limited, 2008), 27 and Skiles Howard, *The Politics of Courtly Dancing in Early Modern England* (Amherst: University of Massachusetts Press, 1998), 65.

of heat in women made them weaker, more emotional, and fed into cultural constructions of inequality.⁴⁶

Although humors played a part, hospitals ultimately separated men and women because of concerns over sexual activity and the reputation of its female patients. Modesty and honor were virtues that when combined with a dowry, enabled women to improve their status through marriage and education.⁴⁷ Hospital walls helped to preserve female virtue.⁴⁸ The archbishop and the Crown reinforced this pattern. Before the completion of San Andrés, Lima's archbishop called for hospitals to rigorously separate the environments of different genders.⁴⁹ In 1559, the princess of Spain contributed funds to furnish the hospital with the understanding that there would be at least "...[t]wo rooms, one for men and another for women, with a central patio in the entranceway, and large chambers for the reception of patients."⁵⁰ San Andrés's design catered to the gendered body by separating the women's infirmary, patio, and garden. Just across the street from San Andrés, Hospital Santa Ana also

⁴⁵ Mala Hrun, *Sex and the State: Abortion, Divorce, and the Family under Latin American Dictatorships and Democracies* (Cambridge: Cambridge University Press, 2003), 46 and Susan Kingsley Kent, *Gender and Power in Britain, 1640-1990* (New York: Routledge, 1999), 145.

⁴⁶ Susan Socolow, *The Women of Colonial Latin America*, 75 and Ana María Presta, "Doña Isabel Sisa, A Sixteenth-Century Indian Woman Resisting Inequalities," in *The Human Tradition in Colonial Latin America* (Lanham: Rowman & Littlefield Publishers, Inc., 2013), 47-49.

⁴⁷ Nancy E. Van Deusen, *Between the Sacred and the Worldly: The Institutional and Cultural Practice of Recogimiento in Colonial Lima* (Stanford: Stanford University Press, 2001).

⁴⁸ Susan Socolow, *The Women of Colonial Latin America*, 118.

⁴⁹ "Real Cédula," (29 Mayo 1559) in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 32.

⁵⁰ En principio edificaron dos salas, una para hombres y otra para mujeres, con un patio principal de entrada, así como aposentos grandes para la recepción de los enfermos. "Las primeras ordenanzas," (1549) in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 41.

partitioned female spaces including an infirmary, patio, and kitchen where foods could be prepared according to their “likes and needs.”⁵¹

Other agencies that reinforced gendered healing practices were royal investigators who evaluated how hospitals ran and operated. When a board reviewed Santa Ana, they insisted that “[M]ale patients will not have any access to the female ward, which is accounted for by the nurse and the servants in charge.”⁵² Access to female rooms was carefully controlled as well. Only female nurses and slaves tended to female patients and cleaned their living quarters. For example, black women cleaned the bathroom and dispensed patient medications.⁵³ Women recovered in their own space on their own terms: with a private ward and unique diets tailored to the female body. Grouping bodies according to humoral theory bolstered the efficiency of hospital care.

Architectural features and design reveal how medical professionals conceptualized healthy bodies. Cultural and social generalizations about healthy bodies and the environment allowed urban elites to define colonial bodies according to race, gender, social status, and physical conditions. These categories informed how medical professionals and councilmen thought about wellness and the art of healing a diverse urban population and contributed to a network of specialized urban hospitals.

⁵¹ *Gustos y necesidades* “Ordinances of the Archbishop,” (1550) in *ibid.*, 72.

⁵² Los enfermos no pueden tener acceso alguno a la sala de mujeres, que cuenta para su servicio con una enfermera y sirvientes encargadas. *Ibid.*, 73.

⁵³ “Reglas de funcionamiento,” in *ibid.*, 72.

3.3 Hospitals for Almost Every Body

Between 1538-1669 over twelve hospitals opened up in Lima. Each hospital targeted a distinct social group and specialized in their care. Under the auspices of public health, hospitals protected wards from the dangers of a hazardous environment. In March 1538, the town council allocated two lots located two blocks west of Lima's main plaza to build a hospital. The site became Hospital Nuestra Señora de la Concepción. Not a lot is known about the facility, except that it was Lima's first hospital and the campus of Convento Santo Domingo later annexed it.⁵⁴ Other accounts suggest the hospital merged with hospital Santa Ana twelve years later.⁵⁵ Archbishop Jerónimo de Loyosa spearheaded the construction of Santa Ana and San Andrés in 1549, and over the next century approximately twelve hospitals joined the urban landscape. Where the secondary examines these facilities, it emphasizes the city's changing demographics.⁵⁶ It appears that when San Andrés and Santa Ana were built, Lima's hospitals became specialized, each serving a specific social group. The patrons behind every hospital identified a target clientele. So for example, San Andrés became the Spanish hospital and Santa Ana served the indigenous population. In practice, however, healthcare facilities were not universally exclusive. Although institutions primarily helped a particular sector of the population,

⁵⁴ See appendix 1 in Consejo de Lima, *Libros de Cabildos*, 2:410.

⁵⁵ BNP, B1236 "Breve descripción de hospitales y casas de recogimiento de la ciudad de Lima, s.f. (1633) and Francisco Guerra, *El Hospital en Hispanoamérica y Filipinas, 1492-1891* (Madrid: Ministerio de Sanidad y Consumo, 1994), 431 and 433.

⁵⁶ Luis Deza Bringas, *Testimonios del linaje* and Emilio Harth-Terré and Alberto Márquez Abanto, *Historia de la casa urbana virreinal en Lima* (Lima: Gil, S.A., 1962).

most hospitals treated people of different races and genders, albeit in smaller numbers.

Even though hospitals were medical facilities, they were founded through the collaboration of secular donors and religious organizations. For example, in the mid-sixteenth century, Lima's viceroy, Andrés Hurtado de Mendoza, initiated two new hospitals in Cañete (a southern district of modern-day Lima). His instructions called for two facilities, one Indian and one Spanish. In addition to their stated clientele, San Andres and Santa Ana served free blacks, mestizos, and mulatos. During his tenure, patrons pooled funds to build a hospital for women and orphans, (Hospital Caridad, 1559).

TABLE 3.2
HOSPITAL FOUNDATIONS IN LIMA, 1538-1669

Hospital	Founded	Clientele	Additional Details
Nuestra Señora de la Concepción	1538		Merged with Hospital Santa Ana in 1549.
San Andrés	1549	Spanish men	
Santa Ana	1549	Indigenous men and women	
La Caridad	1559	Spanish and mestiza women	Also a place for divorcees and widows
San Lázaro	1563	Lepers	
Espíritu Santo	1575	Sailors	Physician on staff visited mariners' wives and children at home
San Toribio	1589	Indigenous men and women	Opened in response to a smallpox epidemic
San Juan de Dios (Hospital San Pedro)	1594	Clergymen	Used as a depository for prisoners
San Diego	1598	<i>Convalecencia de Hombres</i>	
Santa Cruz	1603	Orphans	
San Bartolomé	1646	Slaves and free blacks	Used by slaveowners as a depository for free black men and women who could no longer work
Santa Cruz de Atocha	1649	Female orphans/abandoned children	
Santo Refugio de Incurables	1669	Invalids, the chronically ill, and <i>ancianos</i>	

As the chart above indicates, hospitals doubled as a social refuge for outcasts and the vulnerable; Hospital Caridad operated both as a place of care and housed "...[t]he few divorced or abandoned women in need of temporary shelter."⁵⁷ Along those lines, Hospital San Juan doubled as a jail for overflow prisoners.

Municipal authorities also used location to the advantage of public health interests. Hospitals San Lázaro and San Toribio perhaps best illustrate this concept. The miasma theory of disease held that bad odors infected the atmosphere and spread through contact with contaminated air, clothing, bed linens, and people. Once inhaled, the human body suffered deleterious effects and worse, "corruption within the body could lead to the exhalation of miasmatic air, meaning that diseases could spread from person to person."⁵⁸ Lima's most dangerous bodies, lepers and plague victims were strategically removed from the city center. Both the leper hospital, San Lázaro (founded 1563) and Hospital San Toribio, a plague hospital (founded 1589) resided on the northern bank of the Rímac River.⁵⁹ Spatial isolation served the municipal health agenda in two ways. First, these hospitals enclosed dangerous miasmas produced by diseased bodies. Second, chronicler Bernabé Cobo mentioned that Lima's winds blew from the south, meaning that the noxious airs circulating on the northern bank would be blown northward and away from the general population.

In addition to attending the ill, hospitals also buffered contact between the patients and Lima's population at large. Some hospitals were intentionally located far

⁵⁷ Nancy E. van Deusen, *Between the Sacred and the Worldly*, 66.

⁵⁸ J. Crawshaw, *Plague Hospitals*, 28.

⁵⁹ The strategy of locating hospitals away from the town, or outside city limits is seen in other areas of Latin America and Europe. See John T. Alexander, *Bubonic Plague in Early Modern Russia*, 276.

from the city center. Isolation strategies dated back to biblical times and were reinforced by the Church.⁶⁰ Hospital San Lázaro (Lima's leper hospital) was built on the north side of the Rímac River far away from cathedral, main plaza, and important government buildings. A seventeenth-century account of Lima's hospitals indicated that "At hospital San Lázaro they cure plagued lepers and the badly diseased...and they are collected so that they do not infect the Republic."⁶¹ By forcing the lepers to the north of Lima, urban elites ensured that the wind would carry infected miasmas in the opposite direction of the city. By removing lepers, and enclosing them within hospital walls, urban elites hoped to contain the illness.⁶²

Strategic placement also influenced Hospital San Toribio's foundation. From 1585-1591, a number of different diseases afflicted the Peruvian coast including smallpox, measles, mumps, typhus and influenza.⁶³ News of a *peste* [epidemic/plague] reached Lima in March of 1589. Alarmed that the contagions might spread, Viceroy Conde de Villar prohibited southward-bound travelers from

⁶⁰ Such as in the 1179 Lateran Council that called for the segregation of lepers and the creation of lazar houses (homes for lepers) throughout Europe Anne J. Cruz, *Discourses of Poverty* (Toronto: University of Toronto Press, Inc., 1999), 12.

⁶¹ En el hospital San Lázaro curan los leprosos plagados y malatos de las enfermedades...porque no se inficionen la República. BNP, B1236, s.f. "Breve descripción de hospitales y casas de recogimiento de la ciudad de Lima," (1633).

⁶² Physical separation from society was only the beginning, as regional laws often prohibited lepers from participating in society. For example, in medieval England, lepers forfeited their legal identities such as inheritance, property and marriage rights. Nicolas Orme and Margarets Webster, *The English Hospital*, 26.

⁶³ Noble David Cook, *Demographic Collapse*, 62.

entering the city.⁶⁴ Nevertheless, an unsuspecting carrier brought smallpox to the Rímac River valley.

Within two months of the outbreak in Trujillo, smallpox began killing Lima's Indians en masse. In May 1589, the town council's scribe recorded the following:

In this town God was served that many are sick with smallpox, and the majority are in the hospital of the Indians. Throughout the village there were already many places sick from this disease and from the month it began until now...it was advised to nominate deputies who could visit the blocks and parishes of this city to account for the ill and...those that have no shelter should be taken to the hospital where they can be cured.⁶⁵

Urban elites wanted to get sick people off the street and into a hospital bed as quickly as possible. For that reason, the cabildo immediately sent deputies to physically collect and relocate Indians into Hospital Santa Ana. Demand was so high that the town council suggested pooling funds and donations to build a new Indian hospital in the San Lázaro neighborhood.

The death toll continued to mount and the city needed another hospital to contain sick indigenous bodies. In reviewing options for the new facility, councilmen noted, "because there is a lot of disease, especially among the Indians, it is necessary to build a hospital in San Lázaro for the poor and the Indians that live there."⁶⁶ This discussion reveals that by this point in time, large numbers of poor and indigenous

⁶⁴ 20 March 1588 in Consejo de Lima, *Libros de Cabildos*, 11:103.

⁶⁵ En esta ciudad había ya muchos enfermos de viruelas y serán principalmente en el hospital de los naturales y que por el pueblo había ya en muchas partes enfermos desta enfermedad y que hasta ahora en que mes había dado y daba era calor natural y que convenía nombrar deputados que por las cuadras y parroquias desta dicha ciudad tuviesen cuenta con visitar los dichos enfermos y que los que no tuviesen para abrigo y reparo para se poder curar los hiciesen llevar al hospital, 31 May 1589 in Consejo de Lima, *Libros de Cabildos* 11:112.

⁶⁶ *De que a causa de mucha enfermedad que hay especialmente en los naturales convendría hacer un hospital en San Lázaro para los pobres que allí están poblados y pues los indios que allí estaban.* 26 June 1589 in *ibid.*, 120.

people had settled in the San Lázaro neighborhood.⁶⁷ Placing the hospital in this area served the needs of its residents, but it also reinforced the municipal government's tendency to concentrate harmful miasmas away from the city center.

On this occasion, however, the second Indian hospital was too little too late. The spread of disease overwhelmed the public health infrastructure. Overcrowding prevented facilities from admitting everyone who sought care. Afraid that the mobile sick might affect the city's population with their disease-laden miasmas, the mayordomo of Hospital Santa Ana, Luis Delgado, petitioned the viceroy for an emergency 2,000-*peso* loan. With the funds, Delgado recommended hiring additional caregivers who could be dispatched to Indian neighborhoods and treat the problem on site.⁶⁸

At any point in time, patients poured into the city's hospitals from across South America. Naval personnel and even soldiers stationed in Chile donated a portion of their wages to fund Hospital San Andrés. Presumably, if these men became ill they could travel to Lima for treatment. In the late sixteenth century, a Greek sailor gathered enough donations to start a mariner's hospital, open to all naval personnel working in the Americas.⁶⁹ In 1594 a group of *Juandedianos* built Hospital of San Juan de Dios, which specialized in serving the clergy.⁷⁰ Despite the variety of hospitals and their intended clientele, Indians, mariners, Spaniards, women, children,

⁶⁷ To begin, the cabildo hired a preliminary staff including an alderman, physician and barber. See entry for 26 June in *ibid.*, 120.

⁶⁸ 31 May 1589 in Consejo de Lima, *Libros de Cabildos*, 11:112.

⁶⁹ Ricardo Palma, *Tradiciones Peruanas* vol. 4 (Barcelona: Montaner y Simón, 1896), 21.

⁷⁰ *Ibid.*, 130, 139, 146.

and clergymen, African slaves and freed blacks did not gain a designated facility until 1646.⁷¹ After that, it took fifteen more years for the founders to build Hospital San Bartolomé.⁷² Consequently, free blacks and slaves were some of the most vulnerable bodies in terms of public healthcare access. As Nancy van Deusen points out, by the 1590s Africans and mulattos formed over half of Lima's colonial population, yet they did not receive a hospital until 1661.⁷³ For this reason, blacks and mulattos could enter by choice or by force. Free blacks without financial or social resources were occasionally admitted to urban hospitals. For slaves, some owners willingly paid their hospital expenses and at the other extreme, owners abandoned decrepit servants in hospitals.

Segregated facilities contributed to the medical care of a diverse colonial society. Beyond tailored care to specific social groups, each facility shielded patients and staff from environmental health hazards. The policies implemented by urban elites benefited public health by removing the sick from the outside world kept denizens from contracting communicable diseases. Housing the most threatening people on the northern bank of the Rímac River took this concept a step further, using the city's geography and the Rímac river as a natural barrier between healthy and unhealthy bodies.

⁷¹ Prior to this, a few efforts were made to care for the black population. Hospital San Lázaro, for example was technically open to treat anyone with leprosy, even black slaves. And initially, the founder of Hospital Caridad considered founding a hospital for blacks, before he decided to dedicate it to the care of women and orphans. Ilder Mendieta Ocampo, *Hospitales de de Lima colonial: siglos XVII-XIX* (Lima: Universidad Mayor Nacional de San Marcos, 1990), 38-39, 82.

⁷² Nancy E. van Deusen. "The 'Alienated' Body: Slaves and Castas in the Hospital de San Bartolomé in Lima, 1680-1700" *The Americas* 56:1 (1999): 1-30.

⁷³ Nancy van Deusen, "The Alienated Body," 14.

3.4 The Many Faces of the Poor

As a last resort, denizens with strained financial resources sought care in hospitals. If the sick-poor (those who were sick and unable to afford private medical care) were left to suffer, they might enter a never-ending cycle of illness and contamination. The role of hospitals in municipal poor relief reflects a larger transformation occurring in Europe at the time where the perception of poverty and charitable aid were in flux. The reevaluation and transformation of attitudes towards the poor began no later than the fourteenth century in Italy and northern Europe.⁷⁴ At the same time that views on charity were evolving, the structure of hospitals was changing as well. Many underwent what scholars call “municipalization”⁷⁵ where the town council appointed men to serve on a secular hospital board.⁷⁶

These changes went hand in hand with municipal reforms banning public begging. Municipal and hospital interests became tied in the effort to serve the poor. “Poor” is an ambiguous term that refers to several different socioeconomic and ethical states. Broadly speaking, early-modern Limeñan society placed the poor in three categories: the deserving poor, the undeserving poor, and the shamefaced poor.⁷⁷ The deserving poor were either physically or mentally unable to work while

⁷⁴ Anne J. Cruz, *Discourses of Poverty*, 40 and Mary Elizabeth Perry, *Gender and Disorder in Early Modern Seville* (Princeton: Princeton University Press, 1990), 160.

⁷⁵ Tim McHugh, *Hospital Politics in Seventeenth-Century France: The Crown, Urban Elites and the Poor* (Abingdon: Ashgate Publishing, 2007), 41.

⁷⁶ A similar practice occurred in Italian *Lazararettis*, staffed by citizens of the Republic, usually a married couple that served as prior and prioress. See J. Crawshaw, *Plague Hospitals*, 16.

⁷⁷ Linda Martz, *Poverty and Welfare in Habsburg Spain: The Example of Toledo* (Cambridge: Cambridge University Press, 2009), 5 and Cynthia Milton, *The Many Meanings of Poverty: Colonialism, Social Contracts and Assistance in Eighteenth-Century Ecuador* (Stanford: Stanford University Press, 2007), 6-7.

the undeserving poor chose not to work and preferred begging for money. Finally, the shamefaced poor referred to those who needed help, but refused to beg and preferred discrete assistance. The shamefaced poor might also be called the miserable poor, indicating that they could no longer afford their lifestyle.⁷⁸

“Shamefaced poor” carried a stigma that deterred men and women from checking into the hospital. As the superintendent of Hospital Caridad explained, resources were allotted to treat some of the shamefaced poor in their own homes:

The confraternity, at their own expense, [provides] physicians, medicines, a surgeon, and a barber to all the shamefaced poor, who become ill and do not have the means to cure themselves, nor can they come to the hospital owing to their social status.⁷⁹

Under certain circumstances, physicians paid a house visit to spare the individual from embarrassment.⁸⁰ Cynthia Milton describes this phenomenon as “social poverty,” typically experienced by Creoles who found themselves unable to maintain or reach the level of affluence that corresponded to their social status.⁸¹

The deserving poor (also wretched poor) were people of low social and economic standing. It was precisely this group of people, and more specifically, the city’s large African population that the founders of Hospital San Bartolomé wished to

⁷⁸ Jane L Stevens Crawshaw, *Plague Hospitals: Public Health for the City in Early Modern Venice* (Burlington: Ashgate, 2012), 17 and Cynthia Milton, *The Many Meanings of Poverty*, 7.

⁷⁹ *A la dicha hermandad a su costa médicos y medicinas y cirujano y babero a todos los pobres vergonzantes que enferman y no tienen de que curarse y no pueden ir decentemente conforme a sus calidades a curarse a los hospitales* AGI Lima, 211, N.10, ff.1r-1v “Información sobre la hospital de la Caridad (15 February 1596).

⁸⁰ Physicians working at Hospital San Diego (the mariners’ hospital) were also known to pay house calls to sailors’ the wives and children. However, this may have been due to a lack of adequate space and staff for female patients. Josefa Luis Ortega Garcia, et al. “El Hospital de Espíritu Santo,” *Actas del 33 Congreso Internacional de Historia de la Medicina* (1994): 248.

⁸¹ Cynthia Milton, *The Many Meanings of Poverty*, 8.

help. According to a Jesuit account of San Bartolomé's foundation, father Bartolomé Badillo and father Juan Perlin came across a group of old black men and women who were living together under a meager thatch-roof. The friars asked them why they lived there, to which they answered, "there they lived and would die because they did not have any other resource or shelter."⁸² The friars believed them, noting the multitude of bones and skulls that had accumulated in the area, which they took as evidence that others had perished under the same conditions. The black men's poverty moved the friars to inform the archbishop.

The archbishop authorized subsequent steps to aid this social group. He instructed the Order to rent a lot in the Santa Catalina neighborhood where poor, free blacks could go. Within a short period of time, the facility became so popular, that the number of people seeking help overwhelmed the building and its resources "The number of poor people was so great, black men, black women, the elderly, disabled, and sick that they did not all fit into that space. And to continue this holy work, they [The Jesuit Order] bought a *censo*, and that is where the hospital stands today."⁸³ The Jesuit order addressed a stark disparity in Lima's healthcare network until the formation of San Bartolomé, there had been no black hospital in a city where Africans easily made up half of the urban population. It did not serve the interests of the city to allow sick, freed blacks to congregate and expire in a relatively public place. Finally, black bodies had a designated place to retire or recover within the

⁸² Que allí vivían y morirían por no tener otro recurso ni amparo. BNP, F148, s.f. "Breve historia y otros datos sobre la función administrativa del hospital de San Bartolomé,"(c. 1661).

⁸³ Fue tanto el numero de pobres, negras, y negros, viejos, impedidos, y enfermos que ya no cabrían en aquél sitio y continuando tan santa obra, se compró a censo un sitio en dicho que entonces era una huerta despoblada y hoy el que ocupa el dicho hospital. Ibid.

hospital network.

The evolving concept of charity and health care transformed how municipal leaders dealt with poverty in early-modern cities. Town councilmen discouraged panhandling and professional mendicants. Begging was restricted to the church, hospital board members, and occasional patients who asked for money on behalf the hospital, not for their own benefit.⁸⁴ Transients and the wretched poor were absorbed into the hospital system. The addition of lay members to hospital boards created a way in for municipal interests. Lay board members did not replace chaplains and medical professionals, but as the next section explains they assumed an active role in patient care.

3.5 The Nature of Care

Daily sanitation routines carried out by nurses and slaves maintained salubrious environments. This began as soon as patients entered the hospital. Their clothing (contaminated with bad miasmas) were discarded and replaced with a fresh wardrobe.⁸⁵ If hospital protocols were being properly followed, then the ward would have appeared clean and smelled fresh.

Although these practices were expected, the municipalization of hospitals introduced secular figures into the hospital's daily routine. In 1587, Lima's viceroy ordered an inspection of Lima's three hospitals: Santa Ana, San Andrés, and Espíritu

⁸⁴ Miguel Rabi-Chara, *Del hospital Santa Ana*, 45 and Ilder MENDIENTA Ocampo, *Hospitales de Lima colonial*, 82.

⁸⁵ "Reglas de funcionamiento," in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 73 and 75.

Santo.⁸⁶ The purpose was to observe how the administrators, mayordomos, and other officials went about their work. The process began in mid July and dragged out over one and a half years. The inspectors were given several tasks including identifying income and expenses, the amount of donations received, and the appropriation of funds. They reviewed all the relevant documentation including hospital papers, accounting books, inventories, agreements, and the licenses of medical employees. In the end, the royal visitadores found Hospital Santa Ana's administration lacking. They accused its staff of mismanagement and called for the removal of Santa Ana's mayordomo.⁸⁷ They also left the hospital with a list of operating rules meant to guide Santa Ana and other hospitals. The instructions reveal how the staff managed the experience of hospital patients, providing proper nutrition, clean living spaces, and careful medical attention. On a daily basis, *negras* at Hospital swept and washed the floor because according to the hospital's own policies, "[a]ll wards should be kept perfectly clean and neat and provided with incense because it is necessary to have a good smell."⁸⁸ Slaves sustained sanitary conditions. If board members failed to manage the staff and provide a hygienic environment for patients, they might be dismissed.

Humoral theory was the other critical component of early-modern medical care. Every aspect of patient life was executed according to how it would affect the

⁸⁶ AGN, Protocolo N. 64 Escribano Diego Guitiérrez, "La visita del hospital, características y medidas adoptadas," in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 66.

⁸⁷ Ibid., 66-71.

⁸⁸ Todas las enfermerías deben mantenerse perfectamente limpias y aseadas todos los días de sahumeros para menester su buen olor. "Nuevas ordenanzas," in *ibid.*, 77.

balance of blood, bile, and phlegm. Within the wards, humidity was an important consideration. Mattresses were never placed on the floor because they could become damp. And, patients could not keep glasses or jars of water near their beds.⁸⁹

Humidity occurred in the absence of heat and air causing phlegm, mold, grey hair and rot. It broke the body down with putrefaction, illness and death.⁹⁰ By controlling the physical environment, hospitals reduced exposure to dampness and any disruption to the healing process.

A team of professionals regulated patients' humors through individualized care plans. At least once every day, physicians made their rounds to patient bedsides. In the company of the surgeon, apothecary, and nurses or servants assigned to the room, the physician assessed the individual and recommended a plan of action for exercise, diet, medicine, treatments and rest.⁹¹ Although patients were responsible for following the advice, the ward nurses and staff could be punished for a patient's failure to comply.⁹² After an inspection of Santa Ana, officials recommended dedicating one nurse "...to the room for the terminally ill, separated or kept away from others, and he should remain with them, treating them often, lighting their candles on time, and many other things that arise under such circumstances."⁹³ Nurses

⁸⁹ Nuevas ordenanzas," transcribed in *ibid.*, 75.

⁹⁰ David Scæfer, "More than a Fading Flame. The Physiology of Old Age between Speculative Analogy and Experimental Method," in *Blood, Sweat and Tears the Changing Concepts of Physiology from Antiquity into Early Modern Europe*, ed. Manfred Horstmanshoff, et al. (Leiden: Koninklijke Brill, 2012), 245.

⁹¹ "Reglas de funcionamiento," in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 74-75.

⁹² *Ibid.*, 72.

handled a range of activities from lighting lamps and candles, distributing food, to retrieving medicines from the apothecary.⁹⁴ The terminally ill ate in bed, whereas the “*enfermos convalecientes (a salvo)*” [the convalescent ill who were expected to live] dined at a common table, but still according to their individual diets.⁹⁵

Diet was a central determinant of human health. Medical professionals in Spain and Lima at the time believed that human health depended on careful consumption. Important factors to consider included the time of day, the weather, nourishment, freshness, and an individual’s physical activity level. These guidelines were prescribed both in early-modern medical literature and applied to medical practice. Luis Lobera de Ávila in 1551 outlines the importance of proper digestion. He advocates that all digestive tracts are unique and individuals must carefully monitor their diets to protect the health of organs and prevent weakness [*flaqueza*].⁹⁶ Some of the principles espoused by Lobera were followed in Lima’s colonial hospitals.

For example, the timing of meals and the attention given to patients were written into the constitutions of Hospital San Bartolomé. The hospital’s deputies were asked to attend the poor, “...[p]recisely at the time when food was distributed.”⁹⁷

⁹³ Un enfermero se dedicará exclusivamente al aposento de los enfermos desahuciados (separado o alejado de los demás), debiendo permanecer con ellos, atendiéndolos a menudo, llevarles la candela a tiempo y muchas cosas que se ofrezcan en tales circunstancias. Ibid.

⁹⁴ “Nuevas ordenanzas,” in *ibid.*, 77.

⁹⁵ Para el caso de los enfermos convalecientes (a salvo) los alimentos se servirán en una mesa, y de acuerdo con las órdenes dictadas por el médico para cada uno. “Reglas de funcionamiento,” in *ibid.*, 72.

⁹⁶ Lobera de Ávila, f. 3v.

Specifically, the constitutions required deputies to present and divide the food with the “[u]tmost punctuality, occasion, and cleanliness possible; and taking particular care that the sick do not lack anything, as it assumed that he by himself will watch over them like children.”⁹⁸ Emphasis is placed on timing and hygiene so that patients could enjoy warm, healthy meals. At Hospital Santa Ana, patients received fresh milk on a daily basis, in accordance with the physician’s instructions.⁹⁹ Milk was labeled a “white blood,” with warm and damp qualities. It was easy to digest and nourishing, and therefore appropriate for patient consumption.¹⁰⁰ The secular board played an extremely important role in providing and distributing meals. The mayordomo would have purchased the milk for patients and deputies would have dispensed it to the appropriate patients.

Meals were just one component of this individualized care. Physicians also recommended exercise routines, medicine, and medical treatments. As Lobera explains, exercise warmed the stomach, aiding both digestion and evacuation: “[i]t is certain that there is no better health remedy in the world then a bit of exercise, movement, and walking because it increases the stomach’s temperature and other

⁹⁷ Que se ha de hallar presente al repartir la comida a los enfermos y ha de procurar que sea con la mayor puntualidad. BNP, F148, s.f. “Breve historia y otros datos sobre la función administrativa del hospital de San Bartolomé,” (c. 1661).

⁹⁸ Ha de procurar que sea con la mayor puntualidad, sason, y limpieza que sea possible y poniendo particular cuidado para que no les falta ninguna cosa a los enfermos supuesto que cada uno por sí debe mirar como a hijos. Ibid.

⁹⁹ Reglas de funcionamiento,” in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 74-75.

¹⁰⁰ Jane Sharp, *The Midwives Book: Or the Whole Art of Midwifry Discovered* vol. 6 (Oxford: Oxford University Press, 1999), 269 and Andrea S. Wiley, *Cultures of Milk: The Biology and Meaning of Dairy Products in the United States and India* (Cambridge: Harvard University Press, 2014), 104.

organs and expels the superfluities made in the body.”¹⁰¹ He emphasized four additional points to maximize one’s efforts. First, it was best to work out either early in the morning or late at night to avoid extreme temperatures. Second, people should exercise on an empty stomach (post-evacuation). Third, the best time to exercise is right before eating. Fourth, after exercising or exerting energy by other means (i.e. lying with a partner, etc.), one should not bathe because it might interfere with the digestive process.¹⁰² Like diet, physical activity could be optimized for ideal health.

Below physicians were the barbers and barber surgeons, who although not considered medical professionals, were nonetheless vital in executing medical treatments such as bloodletting and purging.¹⁰³ A dramatic but common way of restoring health was through cleanses that forcibly ejected fluids and bodily matter. Procedures might involve diuretics, laxatives, and emetics. At Santa Ana, patients were “purged as necessary,” in a special room dedicated to that purpose.¹⁰⁴ Barbers and physicians would observe the body’s responses including skin color and texture, as well as the color and smell of excretions, to evaluate a purge’s success and to avoid excessive fluid loss.¹⁰⁵

¹⁰¹ Y tenga por cierto que en el mundo no hay ni se puede hallar igual remedio para la salud como tener su cierto ejercicio y movimiento y paseo porque de aquí se aumenta el calor natural en el estomago y en los otros miembros del cual se gastan y se expelen todas las superfluidades que en el cuerpo se engendran. Lobera de Ávila, *Regimiento de salud* f. 4r.

¹⁰² Ibid.

¹⁰³ Paula Ermila Rivasplata, “Salud pública por el Cabildo de Lima durante la Colonia,” *ACHSC* 41:1 (2014): 245.

¹⁰⁴ Los enfermos purgados debían ser necesariamente instalados en un aposento dedicado solo para esta función. “Reglas de funcionamiento,” in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 74.

¹⁰⁵ Martha L. Finch, *Dissenting Bodies: Corporealities in Early New England* (New York: Columbia University Press, 2010).

Cabildo members buttressed the network of medical professionals. After physicians and barbers finished their work, nurses stepped in to monitor the recovery process. Nurses lived in the wards or adjacent rooms and were always on duty. They oversaw the patient care and complied with prescriptions for food diet, medication, treatment, and any other requests ordered by the physician.¹⁰⁶ On hand to offer assistance was one of the *hermanos*. An *hermano* was assigned to each room for “...[b]etter control, care and support.”¹⁰⁷ By volunteering their time, Spanish men participated in patient care.

The nature of patient care took individuals on a journey through a labyrinth of rooms, each with a specific treatment in mind including recovery, purging, or evacuating. Cabildo members infiltrated hospital wards and assumed a range of active and supervisory roles. They supplemented patient care not only because of the tasks they assumed, but also because they outnumbered the medical staff. Mayordomos purchased food and oversaw other board members, deputies volunteered to ensure meals were delivered on time, and others stepped in to watch over patients like guardians.

3.6 Conclusion

Controlling hospitals was key to managing the city’s health. Municipal leaders participated on multiple levels ranging from securing endowments for edification, to creating policies that separated different types of patients from one another, to serving

¹⁰⁶ “Reglas de funcionamiento,” in Miguel Rabi-Chara, *Del Hospital de Santa Ana*, 74-75.

¹⁰⁷ Para su mejor control, atención y asistencia. Ibid., 74.

on the secular board. Whether as a mayordomo or a confraternity member, town councilmen tended directly to patient needs. They helped maintain separations between different bodies and oversaw that proper protocols were followed in the wards. Through these efforts, town councilmen contributed their own health criteria to the local politics of the body.

CHAPTER 4

FOOD AND THE BODY

4.1 Introduction

Every January Lima's town council elected several *vecinos* to serve as hospital *mayordomos* [administrators].¹ The *mayordomo* belonged to the hospital's primary confraternity, a group of twenty to twenty-four men, who participated in hospital activities including patient care, feasts, processions, and burials.² The *mayordomo* managed hospital affairs in cooperation with clergymen and medical professionals. One of the most important tasks he carried out was purchasing food for hospital patients and staff. Bernabé Cobo observed at hospital San Andrés that:

...[t]he sick, poor are given foodstuffs of poultry, preserves, and anything else of this sort, medicine and everything pertinent to their comfort and needs. And this is done in such abundance and with such punctuality that even more fortunate men are not so well cared for in their own homes...³

Culinary habits shaped healthy bodies provided a way for *cabildo* members to influence patient diets.

¹ Consejo de Lima, *Libros de Cabildos*, 6:363 and Bernabé Cobo, *Historia de la fundación*, 321.

² Bernabé Cobo, *Historia de la fundación*, 319 and Nicholas Terpstra, *Cultures of Charity: Women, Politics and the Reform of Poor Relief in Renaissance Italy* (Cambridge: Harvard University Press, 2013), 22.

³ Finalmente aquí se les acude á los pobres enfermos en lo que toca á su regalo de comida de aves, conservas, y lo demás de este género, medicina y todo lo perteneciente á su comodidad y regalo con tanta abundancia y puntualidad, que muchos hombres de caudal no son tan bien acudidos en sus casas. Bernabé Cobo, *Historia de la fundación*, 306.

Consumption and its effect on the body informed how the *cabildo* regulated Lima's food supply through hospitals, the urban economy, and the marketplace. The charts below illustrate two shopping lists procured by the *mayordomos* of Hospital San Andrés and Hospital Santa Ana. Table 4.1 illustrates what the *mayordomo*, Juan de Ocares Salvatierra, purchased during a one-year period from September 1611 to August 1612.⁴ Table 4.2 outlines what San Andrés' *mayordomo*, Bernaldino de Tejada, bought from November 1612-October 1613.⁵

⁴ IRA, Maldonado, A-III-335, f.1r. (1613).

⁵ IRA, Maldonado, A-III-306, ff. 87r.-109r.

TABLE 4.1
ITEMS PURCHASED BY SANTA ANA'S *MAYORDOMO*
SEPTEMBER 1611-AUGUST 1612

Item	Quantity
Hens	5098 (birds)
Chickens	1010 (birds)
Wheat	458.6 <i>fanegas</i>
Barley	9 <i>fanegas</i>
Maize	231 <i>fanegas</i>
Green potatoes, dry potatoes, potatoes	58.5 <i>fanegas</i>
Raisins	110 <i>arrobas</i> 64 <i>pounds</i>
Wine	41 bottles
Honey	29 bottles
Oil	17 <i>arrobas</i>
Vinegar	19 bottles
Saffron	4 pounds

Item	Quantity
Cinnamon	1 pound
Pepper	2 pounds
Cloves	0.5 pound
Salt	100 <i>arrobas</i>
Quinoa	1.25 <i>fanegas</i>
Garbanzos	.5 <i>fanega</i>
Lima beans	1 <i>fanega</i>
Sugar	50 <i>arrobas</i>
Almonds	1 bottle
Herbs	
Preserves	
Sponge cake	

TABLE 4.2

ITEMS PURCHASED BY SAN ANDRÉS' *MAYORDOMO*

NOVEMBER 1612-OCTOBER 1613

Items bought for general consumption
Pumpkin
Quince fruit
Sugar
Vinegar
Sweet Bread
Squash
Honey
Minaret Squash
Minaret Pumpkin
Roasted meat
Cheese
Blue-flowered onion
Suckling goat
Aguardiente
Saffron
Rhubarb
Teleost fish
Cassia leaves

Items bought for general consumption
Turpentine
Almonds
Myrrh oil
Pigs
Mercury
Absinthe oil
Dates
Aluminum
Catorem
Poisonous mixture of copper acetates
Myrobalan
Colocynth
Almond oil
Ferns
Euphorbia
Laurel oil
Poppy oil

The shopping lists are important not only for their similarities, but also for their differences, because they highlight how public health was conceived and promoted for different groups of people. At hospital Santa Ana, which served an Indian population, the *mayordomo* stocked up on 6,000 birds, nearly 457 *fanegas* of wheat, and several dozen bottles of wine, honey and oil. Other purchases included maize, potatoes, raisins, lamp oil, saffron, pepper, cinnamon, salt, sugar, preserves, sponge cake, and almonds.⁶ The pantries at Santa Ana and San Andrés shared several common items including almonds, honey, saffron, sugar, vinegar, oil, and several thousand poultry. Physicians considered chicken and fowl healing foods because they were simple and light in flavor and texture.⁷ They fell under the category of “convalescent cooking,” a type of cuisine prepared for the recuperating or those with impaired digestive systems.⁸

Some of the differences between the lists are related to bookkeeping styles. For example, while San Andrés’ *mayordomo* recorded poultry in a separate ledger, he included medicinal purchases with this list.⁹ Perhaps the most revealing way in which

⁶ A *fanega* is a measurement of land that describes how much land is sown by a *fanega* of seed (about a bushel and a half) Given the variation in seeds and measurements what a *fanega* represented numerically could vary from place to place. Caterina Pizzigoni, *Testaments of Toluca* (Stanford: Stanford University Press, 2007), 248; E. Hugo García Valencia, “The American Mediterranean,” in *Native Peoples of the Gulf Coast of Mexico*, ed., Alan R. Sandstrom, et al. (Tucson: The University of Arizona Press, 2005), 105; and IRA, Maldonado Colección, A-III-335, ff. 23r-25v (1613). According to Ken Albala one of the oldest ways to make preserves in early-modern Europe involved “immersing fruits or other foods in honey which keeps out air and bacteria;” an alternative method involved alcohol in *Food in Early Modern Europe* (Westport: Greenwood Press, 2003), 99.

⁷ Ken Albala, “Food for healing: Convalescent cookery in the early modern era,” *Studies in History and Philosophy of Science Part C* 43:2 (2012): 324.

⁸ *Ibid.*, 323.

⁹ The bookkeeping records varied among hospitals and *mayordomos*. San Andrés’ *mayordomo* occasionally used a separate ledger just for poultry purchases. Notre Dame Special Collections, Antonio de Colombres, “The Accounts of the Royal Hospital of San Andrés,” ff. 17r.-35v.

they differ is with respect to specific food items. These variations reveal in small ways how physicians thought about the nutritional needs of different bodies. Santa Ana's *mayordomo* purchased more foods of local origin that were traditionally central to an indigenous menu such as potatoes, green potatoes, dry potatoes, and quinoa. During a similar timeframe, these foods never appeared on San Andrés' inventory. Similarly, San Andrés' chefs worked with crops and animals relocated to the Americas by Europeans such as suckling goat, pork, dates, rhubarb, blue flowered onion and squashes. Many of these foods were planted and grown in and around the city, highlighting how Europeans began transforming Lima's environment. European expectations of food, health and the body prompted them to produce and consume foods traditionally found in the Mediterranean diet.

The *mayordomo* procured food specific to his patients and staff. A shopping list registered in San Andrés' records in 1602 designates purchases made for the poor, slaves, Indians, and ecclesiastics.¹⁰ The *mayordomo* at the time, Antonio Colombres, occasionally included remarks suggesting who would eat specific foods. Some of his annotations read, "to sustain the hospital's poor," or "slave rations."¹¹ An analysis of a week's worth of food purchases for San Andrés (see table 4.3) discloses some of this information. The poor, for example, received meat; friars and the *mayordomo* dined with wine; and slaves received separate rations altogether

¹⁰ For example, IRA, Maldonado Collection, A-III-335, f. 23r. (1613).

¹¹ *Para los pobres and raciones de negros* NDSC, Antonio de Colombres, "The Accounts of the Royal Hospital of San Andrés," ff. 17r-35v.

TABLE 4.3

FOOD PURCHASED FOR HOSPITAL SAN ANDRÉS, HOLY WEEK, 1602

April 1, 1602		April 2, 1602	
Type of Food	Amount paid	Type of Food	Amount paid
fish	18 <i>reales</i>	2 rams (for the poor)	20 <i>reales</i>
corn flour	4 <i>reales</i>	fish	18 <i>reales</i>
ceren	4 <i>reales</i>	corn flour	4 <i>reales</i>
lettuce	3 <i>reales</i>	lettuce	2 <i>reales</i>
biscuits (for the friars)	3 <i>reales</i>	milk	2 <i>reales</i>
milk (for the sick and the friars)	5 <i>reales</i>	bananas	3 <i>reales</i>
eggs	8 <i>reales</i>	eggplant	3 <i>reales</i>
olive oil	1 <i>real</i>	quince	1 <i>real</i>
wine rations (for the friars)	12 <i>reales</i>	biscuits (for the friars)	12 <i>reales</i>
rations for the slaves (for today and tomorrow)	12 <i>reales</i>	wine rations (for the friars)	12 <i>reales</i>
		herbs	4 <i>reales</i>
		bread	12 <i>reales</i>

TABLE 4.3 (contd.)

April 3, 1602		April 4, 1602 (Holy Thursday)	
Type of Food	Amount paid	Type of Food	Amount paid
1 1/2 rams (from Santa Ana)	15 <i>reales</i>	1 1/2 rams (from Santa Ana)	15 <i>reales</i>
rations for the slaves (for today and tomorrow)	12 <i>reales</i>	fish	18 <i>reales</i>
wine (for the <i>mayordomo</i> and chaplain)	12 <i>reales</i>	wine rations	14 <i>reales</i>
eggplant	4 <i>reales</i>	white beans	4 <i>reales</i>
una cocina de plátanos	4 <i>reales</i>	bledo	3 <i>reales</i>
lettuce	2 <i>reales</i>	corn flour	2 <i>reales</i>
corn flour	2 <i>reales</i>	milk	2 <i>reales</i>
potatoes	1 <i>real</i>	fruit	4 <i>reales</i>
milk	2 <i>reales</i>	eggs	5 <i>reales</i>
eggs	5 <i>reales</i>	bread	10 <i>reales</i>
yerba (herbs)	4 <i>reales</i>	yerba (for Easter)	12 <i>reales</i>

TABLE 4.3 (contd.)

April 5, 1602		April 6, 1602	
Type of Food	Amount paid	Type of Food	Amount paid
fish	20 <i>reales</i>	3 rams	30 <i>reales</i>
pumpkin	4 <i>reales</i>	fish	20 <i>reales</i>
eggplant	3 <i>reales</i>	rice	4 <i>reales</i>
1 1/2 rams (for the sick)	15 <i>reales</i>	pasta	4 <i>reales</i>
lettuce	2 <i>reales</i>	lettuce	3 <i>reales</i>
milk	2 <i>reales</i>	quince	1 <i>real</i>
starch	2 <i>reales</i>	aguardiente	1 <i>real</i>
potatoes	1 <i>real</i>	milk	4 <i>reales</i>
cheese	1 <i>real</i>	pepper	1 <i>real</i>
spices	1 <i>real</i>	butter	1 <i>real</i>
biscuits	3 <i>reales</i>	3 doves	9 <i>reales</i>
wine rations	12 <i>reales</i>	fruit	3 <i>reales</i>
rations for the slaves (today and tomorrow)	12 <i>reales</i>	wine rations	12 <i>reales</i>
fruit	4 <i>reales</i>	corn flour	2 <i>reales</i>
eggs	4 <i>reales</i>	Black woman who helped knead bread	12 <i>reales</i>
		pumpkin	3 <i>reales</i>

TABLE 4.3 (contd.)

April 7 1602 (Easter Sunday)	
Type of Food	Amount paid
4 rams	45 <i>reales</i>
beef	6 <i>reales</i>
bacon	4 <i>reales</i>
corn flour	3 <i>reales</i>
pork loin	2 <i>reales</i>
verdugados	2 <i>reales</i>
parsley	1 <i>real</i>
potatoes	2 <i>reales</i>
wine rations	12 <i>reales</i>
bread (purchased)	10 <i>reales</i>
dinner for friars	3 <i>reales</i>

Many of the items listed fell within the category of convalescent foods. Eggs were valued for their nourishing and healing properties. Lobera explains, "...[t]he yolk of a fresh egg is heavenly and of great sustenance and digestion, being that it is soft in the morning and good at night or from one day to the next."¹² Another convalescent staple, bread, was so important that many hospitals baked their own loaves in-house. Black slaves working in the hospital assumed the task of kneading and baking, and when demand was high hospitals hired an extra pair of hands.¹³

¹² La yema de huevo fresco es santísima y de Buena sustancia y digestión, estando blanda de la mañana para la noche o de un día para otro. Luis Lobera, *Libros de regimiento*, f. 4v.

¹³ NDSC, Antonio de Colombres, "The Accounts of the Royal Hospital of San Andrés," f. 35r (6 April 1602).

Proper diet and digestion played a vital role in the health of colonial bodies, and the storerooms of Santa Ana and San Andrés demonstrate how physicians thought about and addressed the different nutritional needs of colonial bodies. Lobera explains, “...[i]t is certain that if the stomach’s digestion is imperfect and vicious it is impossible that the liver and other organs function properly...”¹⁴ Irregular digestion could lead to complications such as weakness [*flaqueza*] and illness.¹⁵

Cabildo members reinforced the importance of food to human health when, in their capacity as *mayordomos*, they purchased items for patients, staff, and slaves. The municipal government connected food policies with the administration of Lima. They combined discourses about food, bodies and the common good in order to regulate sources of labor, the urban economy, social order and public health.

4.2 Early-Modern Food Theory

Early-modern food theories heavily influenced the ways that urban elites thought about diet and health. If you asked a dietitian or physician what a healthy diet looked like, they probably would have told you that all foods possessed inherent qualities that, when consumed, affected the body’s humors. Thus, diet was an important means to maintain and restore humoral balances. There were two ways that people ascribed qualities to meals during this period: based on Galenic theories and first-hand observation. The writings of the ancient physician, Galen of Pergamum (second century C.E.) served as the principal guide for dietary knowledge during the

¹⁴ De lo cual todo esto se va de tener por cierto que sí la digestión del estómago es imperfecta y viciosa es imposible que se haga bien en el hígado y en los otros miembros. Luis Lobera, *Libros de regimiento*, f. 3v.

¹⁵ Ibid.

sixteenth and seventeenth centuries.¹⁶ According to Galen, all foods possessed different virtues that influenced organ functions, humors, cognitive reasoning, and personality. As a result, foods were categorized according to what happened to the body post-consumption. Galen's theories became popular and prevalent in early-modern Iberia owing to what Ken Albala identifies as a culinary "Galenic Revival."¹⁷ During the Renaissance, Galenic texts were translated first by Arab scholars and then into other vernacular languages that were widely distributed with printing technology. Dietary guides became a popular genre that spread throughout Europe and the Americas.

The second cataloging system came in the form of analogical inference.¹⁸ People deployed their sense of sight, taste, touch and smell to analyze food. Therefore, expert and laymen alike could categorize edible humors, i.e. fish as cold and moist or black pudding as hot and moist. Other environmental considerations such as an animal's personality and ecosystem provided more cues. For example, rabbits were skittish and therefore melancholic and bulls were stubborn and thus choleric. Fish were cold and moist because they lived in rivers, ponds, and oceans. Natural habitats influenced an animal's suitability for consumption. A fish from a clear river was more desirable than a fish from a stagnant, murky pond. Likewise, a pig raised outside roaming free and grazing on alfalfa was prized as an optimal meat source. By contrast, caged animals or animals raised in their own filth were

¹⁶ Ken Albala, *Eating Right in the Renaissance*, 5

¹⁷ Ibid., 251.

¹⁸ Steven Shapin, "You Are What You Eat: Historical Changes in Ideas about Food and Identity," (Paper Presented at the Anglo-American conference, 11 July 2013).

considered less healthy. Mushrooms helped prove the dangerous consequences of food grown in sordid conditions because so many varieties were poisonous. In a similar manner, marsh-dwelling creatures such as frogs and snails were also consumed with caution.¹⁹

Culinary traditions indicated a person's optimal diet because people fared better eating the foods they were accustomed to. Theorists proposed that the land where a person was born and raised influenced what foods would nourish his body. Environment determined a person's constitution (humor levels) at birth and remained influential over the course of a lifetime. Although constitutions were individual, there were some foods that were widely beneficial to particular cultural groups. For Spanish bodies, universally beneficial fare included the yolk of a fresh egg, chickens, pheasants, turtledoves, partridges, and milk. By contrast, indigenous bodies thrived on foods found in the New World such as maize, potatoes, quince, and fish. Social historians such as Marcy Norton and Rebecca Earle have examined the relationship between diet, health and race in the early-modern Atlantic World.²⁰ Their studies suggest eating well maintained racial stability. Spaniards needed influences that kept them "Spanish," such as a Mediterranean diet based on wine, pork, almonds, olive oil, etc. In other words, Spanish colonists ate foods typically associated with upper-class Iberian diets because this sustained them in an unfamiliar environment. Some even

¹⁹ Ken Albala, *Food in Early Modern Europe*, 221. Other dangerous foods included the feet and claws of animals, because they were considered dry and difficult to digest. Luis Lobera, *Libros de regimiento*, f. 4v.

²⁰ Rebecca Earle, *The Body of the Conquistador* and Marcy Norton, *Sacred Gifts, Profane Pleasures*.

postulated that diet alone kept Spanish bodies from degenerating into indigenous ones.²¹

Socioeconomic standing also influenced nutrition theory. According to dietary guides, eating well shaped the contours of a healthy body. Moreover, certain foods were more nourishing to specific types of people. Consequently, an ideal diet varied depending on one's class and background. These ideas circulated and affected an item's popularity or lack of it among elite classes. For example, elites turned their noses up at foods associated with peasants and laborers such as dried meat and porridge.²² Classist food attitudes worked both ways; contemporary dietitians warned commoners against foods associated with wealthy pallets because it would not mix well in their "rustic stomachs."²³

The built environment also played a role in the sustenance of bodies, urban and rural, and people's bodies differed as a result. Luis Lobera de Ávila, royal physician to the Spanish Crown in 1540, explained:

There are a lot of men who do not feel sick when they eat a lot of fruit, because they have traditionally eaten a diverse range of nutrients, and another example is if someone from the city were to eat bread that has been well kneaded and sheep's meat, without a doubt he would become ill, because it is not his custom, and if some of us were to eat grains of rice and fish like the Indians, we would not be sick.²⁴

²¹ Rebecca Earle, *The Body of the Conquistador*, 3.

²² Ken Albala, *Eating Right in the Renaissance*, 192.

²³ Ibid., 195.

²⁴ Hay muchos hombres que no sienten ningún daño aunque coman harta fruta, porque la costumbre tiene diversa nutrición y otra razón como si alguno de la ciudad comiese pan bien amasado, y carne de oveja sin duda enfermaría, porque no tiene tal costumbre, y si algunos de nosotros comiésemos granos de arroz y peces como hacen los indios no dejaría de estar enfermo. Luis Lobera, *Libros de regimiento*, f.5r.

Rural and urban men were born and nurtured in different environments and this steered the course of their individual health needs. Thus, even manmade environments could have a lasting affect on the body's needs.

In colonial Latin America, chroniclers were fascinated by the differences between European and indigenous diets and drew on these distinctions to make universal claims about the natives' character and intelligence. In 1577, a *ladino* chronicler reported on Tlaxcala's natives:

[t]hey are lacking in honor and reason; they are extremely pusillanimous if they do not win favor and, when they feel they have support they are bold and courageous; they do not preserve themselves from contagious illnesses and fall ill: they are negligent and allow themselves to die like animals. They eat very little and nourish themselves with food of little substance.²⁵

Bartolomé de las Casas contended that Spanish bodies contained choleric humors in contrast to the Amerindian who was made up of phlegmatic ones.²⁶ Las Casas attributed this in large part to diet, because whereas Europeans ate wheat and wine, Indians ate fish and tubers.²⁷ The Spanish categorization of indigenous bodies as phlegmatic subjected them to ridicule as a people who were lazy, slovenly and drunk.²⁸ Juan de Solórzano, writing in 1552, commented on a colonial Guatemalan law that reinforced this stereotype, "[Indians] are said to be weak and lazy, and if they are not made to work for their own sustenance they will enjoy no order and progress

²⁵ Muñoz Camargo's *Relación de Tlaxcala* translated in José Pardo-Tomás, "'Antiguamente vivían más sanos que ahora': Explanations of Native Mortality in *Relaciones Geográficas de Indias*," in *Medical Cultures of the Early Modern Spanish Empire*, ed., John Slater, et al. (Surrey: Ashgate Publishing Limited, 2014), 59.

²⁶ Rebecca Earle, *Body of the Conquistador*, 19.

²⁷ Ibid.

²⁸ Ruth Mackay, "*Lazy, Improvident People*": *Myth and Reality in the Writing of Spanish History* (Ithaca Cornell University Press, 2006), 220.

which would be to their detriment.”²⁹ Spanish writers blamed differences between Europeans and Indians on the New World environment and the food they consumed within that landscape.

Beliefs regarding how diet affected a person’s health and personality meant that colonial authorities viewed food as a powerful administrative tool. Where Lobera discusses race, it appears as a stable category. Race was important from a nutritional perspective because racial categories corresponded to distinct homelands and therefore special dietary needs. His texts are very clear that diverse bodies need separate foods, and this belief extends to all variations on the human form: elite, commoner, rural, urban, Iberian, Indigenous, African, etc. The consequence for not following one’s culinary tradition is illness. Food theories influenced how Spanish bureaucrats evaluated what it meant to have a healthy diet and consequently steered the course of policies in the City of Kings.

4.3 Municipal Food Regulations

Across the Rímac River Valley, indigenous communities and African slaves cultivated diverse grains, fruits, vegetables, and herds of animals. Orchards of grapevines and olive trees were transformed into the colonial staples of wine and olive oil. Irrigated fruit orchards were spread out across the hinterlands providing a supply of limes, *lúcuma*, lemons, avocado, and quince. The nearby valleys of Cañete and Lunaguan produced fruit, grapes, wheat, corn and potatoes for Lima’s market. A rich bounty was also hauled in from the rainforest and sierras. The Amazon jungle

²⁹ Translated in *ibid.*, 221.

offered a steady supply of bananas and watermelon, and a range of fruits during the winter season. In the highlands, farmers planted maize and coca and grew a variety of fruits including oranges, pomegranates, pineapple, prunes, melons, and squashes.³⁰

Many of these fields were controlled by *encomenderos* that oversaw indigenous labor tribute produced from those lands. Owing partially to epidemic diseases that diminished the indigenous population, Peru's elite landholders increasingly turned to African slaves to sustain agricultural production.³¹ The lands surrounding Lima, including the fertile valleys of Huaura, Ica and Chili supplied Lima's markets with wheat, sugar, and maize.³² Some indigenous communities such as Surco and Jauja grew wheat for tribute and sold the excess to the city.³³ The *mayordomo* of Hospital, Santa Ana, bought wheat from several merchants, including Indians from Jauja.³⁴

The central plaza became the hub of food transactions run primarily by indigenous- and African-descent women. Merchants set up small awnings and stands and placed products on small tables, blankets, and mats.³⁵ Ambulatory saleswomen walked the streets offering doughnuts, milk, whipped cream, and cheese. In the

³⁰ Pedro Cieza de León, *El señorío de los Inca*, (Barcelona, Linkgua-Digital, 2011), Ch. 17, Kindle edition.

³¹ African Bowser, *The African Slave*, 88 and Lyman L. Johnson and Susan Migden Socolow, "Colonial Centers, Peripheries, and the Economic Agency of the Spanish State," in *Negotiated Empires: Centers and Peripheries in the Americas, 1500-1820* (New York: Routledge, 2002), 63.

³² Nicanor Domínguez Faura, "Agua y legislación en los valles de Lima en el repartimiento de 1617," *BIRA* (1988): 125.

³³ Paul Charney, *Indian Society in the Valley of Lima*, 3-4, 24.

³⁴ IRA, Maldonado, A-III-327, ff. 65r.-65v.

³⁵ *Ibid.*, 108

summer months one could also buy *chicha* and *aloja* [honey mead].³⁶ Women, and in particular Indian and mestizo women specialized in selling wine and other alcoholic beverages.³⁷ The *cabildo* sought to regulate all of these commodities and they levied their domain over marketplace practices.

Administering the food supply made many *cabildo* members quite wealthy, and motivated their involvement. Traditionally, Lima's municipal authorities regulated the quality, quantity and price of staple foods.³⁸ Overseeing human interactions with food permitted the municipal government to project their own health criteria onto the urban economy. Municipal interventions in bread making, butcher shops, and fishing illustrate this point.

Bread, and especially wheat bread, was a critical commodity in colonial Latin America. Wheat held social and cultural meanings that elevated its importance. Within the Catholic faith, it was the only grain converted into the body of Christ during mass. It also was revered as an essential lifeline for Spaniards surrounded by an unfamiliar, New World environment. After invading the Caribbean, Christopher Columbus reported that high mortality rates among his crew would cease when the settlers returned to eating their traditional foodstuffs such as wheat flour, wine, pork, raisins, and olive oil.³⁹

³⁶ Ibid.

³⁷ Susan Socolow, *The Women of Latin America*, 126.

³⁸ Margaret Pelling, "Food Policy in the early modern period: medical practitioners and others," *The Society for the Social History of Medicine Bulletin* 40 (1987): 11.

³⁹ Rebecca Earle, *Body of the Conquistador*, 1.

Properly prepared wheat bread was key to nourishing bodies and public safety, and utilizing this language, the *cabildo* drafted a number of food policies. Where bakers worked, for example, came under scrutiny. Municipal ordinances encouraged a clean cooking environment that produced white, seasoned, and completely baked loaves of bread.⁴⁰ In the mid sixteenth century, African and indigenous women were commonly both healers and vendors of baked goods. However, the *cabildo* worried that activities such as treating lymph nodes alongside food preparation presented a health concern, and they ordered vendors to choose one profession or the other.⁴¹ Another potential source of contamination were petty thefts sentenced to work in the *panaderías*, and rumors circled that criminals baked broken glass into the loaves.

Councilmen monitored the grain and bread trade by regulating prices. On one occasion, the low cost of wheat prompted councilmen to set a minimum price “Wheat is cheap and abundant and the poor Indians eat it...from this day forward all bread will be sold for at least one *tomín* per 36 rolls and no less.”⁴² Marketplace interventions, such as this one, occurred frequently throughout the colonial period. The *cabildo* regularly evaluated the price of bread and adjusted it as needed.⁴³ The weight of each loaf also fell under municipal guidelines. At the end of the sixteenth century, councilmen standardized the weight of bread with its corresponding price. In

⁴⁰ 7 February 1558 in Consejo de Lima, *Libros de Cabildos*, 6:28.

⁴¹ Frederick Bowser, *The African Slave in Colonial Peru*, 107.

⁴² Vale el trigo barato y hay abundancia de el y que los pobres y indios lo comen ya y que el trigo vale medio peso más que solía y atento a esto se mandó y proveyó que de hoy en adelante todo el pan que se vendiere treinta y seis panes al tomín y no menos so pena. 26 April 1558 Consejo de Lima, *Libros de Cabildos*, 6:56.

⁴³ 11 January 1616 in Consejo de Lima, *Libros de Cabildos*, 18:169.

June 1599, a 40-ounce loaf of bread sold for one *real* and 10 ounces for a *cuartillo* (quarter *real*).⁴⁴ Yet, a few months later when the price of wheat dropped even further, the *cabildo* adjusted these numbers slightly: a *cuartillo* bought you either a 12-ounce loaf of bread or 8 ounces of *pan regalado* [butter bread].⁴⁵

Another way that councilmen monitored the exchange of bread and grains was by charging inspectors to uphold these policies. Fixed prices kept the grain and bread trade thriving, but enforcement necessitated an expanding bureaucracy of local officials.⁴⁶ Food inspectors reviewed everything from the weight, price, quality, to the quantity of foods sold in Lima's streets and plazas. As part of their duties, they repeatedly relied on their sense of smell to evaluate the safety of certain practices.

Fair prices varied according to the quality of the product.⁴⁷ According to food theories at the time, castrated meat contained a higher nutritional value, because castration stopped nutrients from escaping the body in the form of sperm. In castrated animals the excess nutrients were simply stored in the animal's fat and made for a healthier product.⁴⁸ Likewise, meat taken from female animals that had not yet reproduced had a higher value, as giving birth consumed heat, moisture, and thereby

⁴⁴ The *real* was one of the most common silver coins in colonial Latin America. Eight *reales* made a *peso* which was equivalent to an ounce of silver. Carlos Marichal, *The Cambridge Economic History of Latin America* vol. 1, ed. Victor Bulmer-Thomas, et al. (Cambridge: Cambridge University Press, 2006), 428) and 9 July 1599 Consejo de Lima, *Libros de Cabildos*, 13:293.

⁴⁵ 8 November 1599 Consejo de Lima, *Libros de Cabildos*, 13:343 and Sebastián de Covarrubias Orozco, *Tesoro de la Lengua Castellana o Española* (Madrid: Luis Sanchez, 1611).

⁴⁶ High demand for food in southwestern Peru contributed to inflation and bread prices and meat prices that were 1/3 higher than Lima's markets. Keith A. Davies, *Landowners in Colonial Peru* (Austin: University of Texas Press, 2014), Kindle edition.

⁴⁷ 28 March 1591 in Consejo de Lima, *Libros de Cabildos*, 9:519.

⁴⁸ Ken Albala, *Eating Right in the Renaissance*, 154.

depleted nutrient levels.⁴⁹ Other factors affecting quality included the age and size of the animal. Fat, mature animals had healthier bodies and were better for consumers. On one occasion, Lima's *procurador general* asked the *cabildo* to make sure that vendors only sold decently-sized sheep, because lately those found in the market were "...[v]ery small and skinny and lacking the appropriate age...and it is of great harm to the Republic and its health."⁵⁰ As these examples show, town councilmen used the common good as a language to steer marketplace policies.

Environmental observations were integral to Lima's public health system, especially air quality. Repeated exposure to unhealthy airs could permanently change a person's complexion.⁵¹ In Lima's markets, meat miasmas received a lot of scrutiny. If left to sit all day, it inevitably turned rancid and became a danger to the public. Smelling rotten food was potentially so harmful, that it was considered only slightly worse than eating the food in question.⁵² Bad odors eroded organs and impeded brain function. Conversely, pleasant odors like fresh bread and wine could nourish the body.

Inspectors promoted clean, sanitary sales practices. A certain amount of odor was normal in an open-air market, but if it became overpowering, then it caused concern. On one occasion, an alderman expressed alarm at the sight of huge piles of meat stacked on top of each other. He reported, "[t]here is a great necessity to lengthen the counters where the butchers place their meat, because the smell of bad

⁴⁹ Ibid., 151.

⁵⁰ *Son corderos muy pequeños y flacos y no tienen los años que está acordado...lo cual es muy dañoso a la República así en la salud...* 18 January 1621 in Consejo de Lima, *Libros de Cabildos*, 19:29.

⁵¹ Ibid., 117.

⁵² Ken Albala, *Eating Right in the Renaissance*, 120.

meat is a great inconvenience.”⁵³ The agenda prompted other improvements such as building a new roof over the counters, because the current one was full of holes. The *cabildo* agreed to repair it owing to the fact that excess heat contributed to rotting flesh.⁵⁴

Lima’s residents ate a variety of marine animals, especially sardines, flounder, bonito, shrimp and small sharks.⁵⁵ The maritime environment where fishermen cast their bait said a lot about its health and nutritional value. Fish taken from clear moving waters such as the ocean or Rímac River were more desirable because they were clear, aerated, moving, and heated by the sun. Flounder has a light, delicate taste, indicating it came from a salubrious body of water.⁵⁶ Sardines could be eaten fresh or salted, and sharks were considered a poor man’s food because their meat was full of cartilage.⁵⁷ Spaniards, Indians and blacks all enjoyed eating fish. Fish were especially important during Lent, when Christians fasted from eating other meats. During the rest of the calendar year, both wealthy and poor Spaniards continued to eat fish even though physicians generally considered it harmful to Spanish bodies.⁵⁸

Most of Lima’s fish came from the indigenous fishing communities of Surco, Chorrillos, and shrimpers who lived along the river. Surco and Chorrillos maintained

⁵³ De la necesidad que hay de alargarse la carnicería por la parte dónde ponen la carne por los inconvenientes de ello de olor luego mal la carne. In 14 July 1564 Consejo de Lima, *Libros de Cabildos*, 6:253.

⁵⁴ 17 February 1574 in Consejo de Lima, *Libros de Cabildos*, 8:75.

⁵⁵ Sardines were also dried and used as fertilizer.

⁵⁶ Luis Lobera, *Regimiento de salud*, f. 5v.

⁵⁷ Ken Albala, *Food in Early Modern Europe*, 71, 72, 74.

⁵⁸ *Ibid.*, 71.

several pre-Columbian fishing traditions during the early colonial period. They fished with small reed boats, called *caballitos de totora* for the way fishermen straddled them and rode out to sea. They were small but effective, allowing fishermen to sail just far enough off the coast to reach a rich, maritime environment with a diverse ecosystem.⁵⁹

By contrast, the lives of the shrimp fishermen changed dramatically under Spanish governance. San Lázaro's indigenous fishermen [*indios camaroneros*] across the Rímac River from the city took their nets to the river each day to catch and sell freshwater shrimp. Under the tenure of Viceroy Toledo, indigenous communities attached to the city were consolidated and relocated to El Cercado, particularly the *indios camaroneros* of San Lázaro. A royal decree, signed by Philip II, ordered that the shrimp fishermen relocate to their own *traza*. There they could attend mass, receive Catholic instruction, and provide an abundance of shrimp to the Republic.⁶⁰ The viceroy reinforced the Crown's will, declaring the reduction a positive move that offered stability and security. Apparently, before their relocation, the shrimp fishermen lived a clandestine existence, spread out across the valley in order to avoid their *caciques* and evade tribute. Secret lifestyles, in the *cabildo*'s opinion, promoted drunkenness and vagrancy among the fishermen, and their new homes in Lima

⁵⁹ Joyce Marcus, Jeffrey Somer and Christopher P. Glew "Fish and mammals in the economy of an ancient Peruvian kingdom," *Proceedings of the National Academy of Sciences of the United States of America* 96:11 (1999), 6566. Remains from late fifteenth-century Cerro Azul show that fishermen were able to catch drums, mullet, bonito, flounder, sea catfish, blenny, small sharks, and small sting rays.

⁶⁰ 19 February 1573 in Consejo de Lima, *Libros de Cabildos*, 7:443.

promised the opportunity to dedicate themselves to their craft.⁶¹ As shown in alcohol regulations below, municipal leaders often invoked a rhetoric of dualism to warrant their actions. Without Spanish rule, the shrimp fishermen were exploited and vice-ridden, but after being resettled within Lima's urban plan, shrimp fishermen could finally prosper.

Government interventions covered how shrimp fishermen lived and they harvested fish. From the mid-sixteenth century on, royal officials and urban elites took an interest in conserving Lima's marine environments because of the depleted fish population in Callao's freshwater lagoons. The viceroy blamed amateur fishermen who used huge nets to scoop up piles and piles of fish. Nets, introduced as a colonial technology, were ecologically devastating compared to the artisanal and traditional indigenous method of wooden or reed rods. To curb amateur fishing, Viceroy don García Hurtado de Mendoza passed a mandate ordering that no one, regardless of rank or race, could fish in the lagoons with anything other than fishing poles:

Near the City of Kings there is a lagoon in Callao, next to the ocean, where the river flows out into the sea...where many people go to fish recreationally with rods to compensate for their needs. And I have been informed that some indigenous fishermen and Spaniards go to that pool with nets to fish for grey mullet and they catch such a large quantity...that they undermine the fishery...so I order that from this day forward, no one, regardless of class,

⁶¹ Ibid.

law, or condition, nor Spaniards, Indian or black...can fish in the lagoon or any part of it with nets.⁶²

Maritime environments belonged to the Republic, but municipal leaders assumed responsibility for its use. In this case, the viceroy wanted to make sure that Indians continued fishing according to their customs, without any threat to the fish supply.

Once shrimp and fish arrived to the marketplace, town councilmen intervened in sales practices. Town councilmen mediated market prices on the grounds that they were protecting the fish population. The minutes from one meeting read, “With respect to the good of this city and the bounty of fish in quantity or scarcity, they [the town councilmen] should set a fair and moderate price.”⁶³ The problem, according to the *cabildo*, was that fish were not properly weighed and sold in the market. Instead, merchants estimated a fish’s value by eyeballing it (“a ojo”). The *cabildo*’s scribe wrote, “From this day forward no fisherman no other person can sell any fish either

⁶² Yo he visto el río abajo que pasa cerca de esta ciudad de los reyes se hará un remanso y charco de agua junto a la mar del Callao en medio por dónde el dicho río desagua en el dicho mar que podrá tener y sale el dicho remanso dos tiros de arcabuz desde la boca del dicho mar hasta el raudal del dicho río en el cual hay cantidad de fías dónde muchas personas por su recreación se van a pescar con cañas para reparar sus necesidades y he sido informado que algunas personas pescadores indios y españoles van al dicho remanso y llevan redes con que pescan las dichas lisas y sacan mucha cantidad que de tal manera que por su particular interés deshacen la dicha pesquería de caña y remedio de algunos pobres mayormente como tienen naves para ir a pescar con ellas al dicho mar y otras partes dónde han tenido por costumbre de lo hacer y proveyendo de remedio sobre ello y comunicado con personas que han tenido y tienen experiencia de lo suso dicho. BRAH, Colección Matalinares, 21 “Provisión del orden que se ha de tener en pescar el pescado,” ff. 243r.-244v (16 June 1560).

⁶³ Que teniendo respecto a la ciudad de la bondad del pescado y cantidad o falta dél les pongan el pescado a precio justos y moderados como a ellos les pareciere..22 March 1549 Consejo de Lima, *Libros de Cabildos*, 4:92.

fresh or salted...*a ojo*...”⁶⁴ The *cabildo* claimed informal practices hurt customers, but it also hurt the *cabildo*’s ability to profit from the trade.⁶⁵

Owing to their desire to survey these transactions, councilmen initially tried to stop middlemen from reselling fish in the city. One incident involved the indigenous *yanaconas* and other Indians who purchased fish in Callao and resold it for a higher price in town.⁶⁶ Yet, if the *cabildo* wanted to ban third-party fish salesmen in the mid sixteenth century, within twenty years, they changed their position entirely. At that time, they opened up the trade to black middlemen who bought fish along the coast and resold it in Lima, the only caveat being that they not interfere with the indigenous fishermen.⁶⁷

More fish merchants, however, brought a new set of problems. It became increasingly difficult to keep track of the trade’s value, and whether fish were sold at municipally set prices. To centralize the trade in the early seventeenth century, the *cabildo* implemented an official fish market. Now, ambulatory salesmen could no longer trade and sell along the roads to and from Callao all vendors had to convene in a centralized market monitored by the council.⁶⁸

⁶⁴ De aquí adelante ningún pescador ni otra persona pueda vender ningún género de pescado fresco ni salado aunque sea tomado con atarraya o tramarlo o de otra cualquier manera o ojo. 24 July 1551 in *ibid.*, 415.

⁶⁵ Gilbert R. Cruz, *Let There Be Towns: Spanish Municipal Origins in the American Southwest, 1610-1810* (College Station: Texas A&M University Press, 1996), 12.

⁶⁶ 28 May 1566 in Consejo de Lima, *Libros de Cabildos*, 5:612-613.

⁶⁷ 26 March 1576 in Consejo de Lima, *Libros de Cabildos*, 8:217.

⁶⁸ See appendix Consejo de Lima, *Libros de Cabildos*, 10:552 and the Viceroy’s ordinances of 24 January 1594 in Consejo de Lima, *Libros de Cabildos*, 12:684 and 12 February 1601 in Consejo de Lima, *Libros de Cabildos*, 14:621-622.

Marketplace surveillance and regulation allowed town councilmen to articulate their vision of public health while tying it to important economic activities. They administered the means of production, provision, and sale to enable access to nourishing foods. Urban elites established their authority within the colonial hierarchy by surveying and administering marketplaces. By controlling the food supply, town councilmen promoted healthier marketplaces and augmented the *cabildo*'s power over the urban economy.

4.4 To Drink and Be Wary

Town councilmen used alcohol policies to distinguish themselves from a diverse urban population and to subordinate indigenous and black bodies within the colonial hierarchy. Libations of all kinds were available in the City of Kings, including the indigenous *chicha* (made from masticated corn), *aloja* (fermented honey water), and imported wine and beer.⁶⁹ Alcohol was bought and sold in Lima's marketplace and also in public venues. Social and racial worlds collided in taverns and *pulperías*.⁷⁰ Drinking encounters between different peoples and cultures brought each group under the surveillance of municipal authorities. Town councilmen scrutinized how their fellow denizens drank, fueling and fueled by a number of

⁶⁹ Every drink contained unique qualities that changed the way it metabolized. In general, wine was warm and dry, but these characteristics were relative to other wine varieties. On a scale of warmest to warm, old wine was warmer than young wine and white wine was warmer than red wine. Beer on the other hand was viewed as cold and wet causing a phlegmatic response. Its effects also lasted longer than wine and impaired the body more. B. Ann Tlusty, *Bacchus and Civic Order: The Culture of Drink in Early Modern Germany* (Charlottesville: University Press of Virginia, 2001), 51-52 and Jane E. Mangan, *Trading Roles: Gender, Ethnicity, and the Urban Economy in Colonial Potosí* (Durham: Duke University Press, 2005).

⁷⁰ Mónica P. Morales, *Reading Inebriation in Early Colonial Peru* (Burlington: Ashgate, 2012), 2.

ethnocentric stereotypes. Based on public health discourses, town councilmen created discriminatory food policies intended to bolster their authority over alcohol sales and non-Spanish laborers.

For Lima's urban elites, how a person reacted to intoxication depended on the state of the body (age, gender, and constitution) and the environment (landscape and astrological conditions. "Drunkenness" in the early modern period referred to an observable level of intoxication, and "[c]hronic drunkenness was viewed as a choice of the will, not a disease of the body."⁷¹ Alcohol carried an ambivalent reputation because it had both positive and negative consequences.⁷² On the positive side, alcohol provoked urination and purged the body of unnecessary fluids. Some people, especially sanguine personalities, became rosy cheeked and jovial when intoxicated.⁷³ On the negative side, melancholics, choleric, and phlegmatics did not respond so well. They drank in excess and their personalities became exaggerated; melancholics became depressed and cried, choleric had a temper, and phlegmatics became gullible and nervous.⁷⁴

All humans fell within one of these four personality types and Iberian medical writers and chroniclers perpetuated humoral stereotypes that distinguished Spaniards on the one hand as noble sanguines capable of imbibing, and on the other hand, blacks and Indians who were not sanguines and therefore incapable of respectable

⁷¹ B. Ann Tlusty, *Bacchus and Civic Order*, 52.

⁷² Luis Lobera, *Libros de regimiento*, f. 5r.

⁷³ *Ibid.*, 54.

⁷⁴ B. Ann Tlusty, *Bacchus and Civic Order: The Culture of Drink in Early Modern Germany*, 51.

intoxication. Consequently, Spaniards regarded drinking as a testimony to one's character and a "...[s]ign of their cultural superiority" over other Europeans, blacks, and Indians.⁷⁵

Imbibing altered people in predictable ways because alcohol had an immediate effect on the humors. Race, social standing, age, and character all determined how the body responded. Lobera explained, "Wine is very beneficial when drunk moderately, and it greatly preserves health and impedes illness, but not all men know how to handle drunkenness, and where he errs it causes great harm to every man..."⁷⁶ And owing to the damage it could have on the underdeveloped brains and spirits of youth, alcohol was meant only for adults.⁷⁷ Lobera valorized the traditional Mediterranean drink of choice, wine. He also indicates that even among Spanish men there were varying levels of tolerance, consequently only those who could drink temperately should be allowed to partake.

Colonial authorities, by contrast, treated indigenous libations with suspicion. Critiques of indigenous drinking denounced the action itself and the underlying culture it represented. In the Andes, *chicha* played a pivotal role in indigenous religious and political ceremonies. Providing copious amounts of *chicha*, a drink so revered that under the Inca Empire only a select group of women could produce it, was one way that indigenous leaders rewarded men and woman who provided tribute

⁷⁵ Mónica P. Morales, *Reading Inebriation in Early Colonial Peru* (Burlington: Ashgate, 2012), 2.

⁷⁶ El vino ya dije que era muy provechoso bebido moderadamente, y conserva mucho la sanidad, y impide las enfermedades, pero no todos los hombres saben usar de la embriaguez, mucho daña a todo hombre dónde se erró. Luis Lobera, *Libros de regimiento*, f. 10v.

⁷⁷ Ibid.

or labor services. *Chicha* was also used during funeral services, consumed by the mourners and offered to the dead. In recalling an indigenous ritual that used *chicha*, Pedro Cieza de Leon scathingly remarked that the Indians could not hold their liquor. Cieza claimed that they drank until they began to “...[v]omit and throw things, and many hold their cup in one hand while they use the other to pee.”⁷⁸ In sixteenth-century New Spain, Juan de Cárdenas critiqued a different drink consumed in indigenous rituals: peyotes. In his *Problemas y secretos maravillosos de Indias* he associates the hallucinogenic with witchcraft, magic and the devil.⁷⁹ Both accounts, written by Spanish observers, offer insight into a European disdain for indigenous drinking culture. Mónica Morales claims that the ideology of Incan excesses meant to portray them as passionate and impaired, a depiction that fed back into humoral theory.⁸⁰ If indigenous peoples were passionate then they their bodies and organs were not physically capable of processing alcohol.

Alcohol regulations reinforced the belief that social class was a reliable indicator of how someone would behave when inebriated. According to Lobera, the hearts of women, children, and the laborers were weaker, permitting their emotions to take over when drunk:

You will find here that passions do not greatly affect man, except for the vulgar and idiots...because they are weak of heart, and they fear that harm or adversity might come their way, and [when it does] they shout and cry, and

⁷⁸ Provocan a vómito y lanzan lo que quieren, y muchos tienen con la una mano la vasija con que están bebiendo y con la otra el miembro con que orinan. Pedro Cieza de Leon, *Crónica del Perú*, Ch. 23.

⁷⁹ Juan de Cardenas, *Problemas y secretos maravillosos de las Indias* (Mexico: Pedro Ocharte, 1591), 3.

⁸⁰ Mónica P. Morales, *Reading Inebriation in Early Colonial Peru*, 51.

you can see that their face and chest react like that of women and boys, and just like that, if the sadness is intense, he can die suddenly.⁸¹

First-hand observation reinforced social perceptions of drunks and drunkenness, especially, that not all drunks were created equal. To make sense of this in humoral terms, Lobera faulted the body. Weak hearts caused out-of-control behavior. There was no known remedy to cure this organ; so urban elites used ordinances to discourage the wrong type of people from partaking in alcoholic beverages.

To keep blacks and Indians in a subordinate social position, councilmen used humoral theory against them, claiming that they were incapable of drinking responsibly. Councilmen worried that public taverns created the conditions for social tensions to boil over between different races and for African slaves to ignore their work obligations the following day:

In this city the Indians gather in public *chicha* taverns. And gathered there are principal Indians, others of less standing, and blacks, which causes many and great inconveniences and harm to the Republic. And for going to the taverns and drunken revelries they [black slaves] do not sow the fields or fulfill the other services that they are obliged to do for their masters...⁸²

Town councilmen applied a set of generalizations about black and indigenous bodies and worked it into municipal legislation. They argued that drunk blacks and Indians were predisposed to criminal activity and therefore should be banned from public drinking, but these arguments were largely motivated by the *cabildo*'s own economic

⁸¹ Y aquí es que no hallarás pasiones que muden en gran manera al hombre si no es en la gente vulgar, idiota que carece deficiencia. Porque los tales son blandos de corazón, y temen presto cuando les viene algún daño o algún adversidad y dan voces y lloran y se vieren el rostro y el pecho como vemos que hacen las mujeres y los muchachos, y de aquí es que si la tristeza es intensa y grande se muere súbitamente. Luis Lobera, *Libros de regimiento*, f. 8v.

⁸² ...los indios tienen en esta ciudad tabernas públicas de chicha y se juntan e allegan a ellas mucha cantidad de indios principales e de otra suerte y negros de cuya causa se siguen muchos y grandes inconvenientes y daños a la República así en que por venir y estar en las dichas tabernas y borracheras y dejan de sembrar y otros servicios a sus amos que son obligados. 21 June 1549 in Consejo de Lima, *Libros de Cabildos*, 3:132-133.

interests. In addition to alcohol, *pulperías* sold alcohol and dry goods, but they also dealt in black market trades. Jane Mangan found in colonial Potosí that *pulperías* often accepted stolen goods such as clothing and silver in exchange for payment.⁸³ Therefore, she argues that the *cabildo* efforts to gain control over the *pulperías* were an attempt to play a greater role in the urban economy.⁸⁴ In colonial Lima, similar bans were ineffective, and the town council's response was to close indigenous taverns.⁸⁵

The *cabildo* also sought to regulate the common practices of cutting alcohol with water. Adding water alcohol was problematic for both economic and social reasons. Diluted beverages undercut the municipal government's share in sales taxes. Simultaneously, taverns benefitted by boosting their own profits. However, the consequences went further than the municipal revenues, because the combination of water and alcohol also had an alarming physical affect on patrons. The likely explanation was that water was colder and heavier, causing the mixed liquids to move more quickly through the body. Consequently, customers became more impaired and at a faster rate.⁸⁶ Councilmen maintained that these practices hurt the common good, but underlying this argument was the concern that watered-down drinks left the *cabildo* out of an economic opportunity.

⁸³ Jane Mangan, *Trading Roles*, 49.

⁸⁴ *Ibid.*, 50.

⁸⁵ 26 June 1549 in Consejo de Lima, *Libros de Cabildos*, 3:135.

⁸⁶ *Ibid.*, 53.

Whatever the economic rationale, the town councilmen demanded vending licenses for all city taverns.⁸⁷ Ideally, these licenses restricted *chicha* and alcohol vendors to a select group of people and their corresponding shops. The number of legal licenses in the mid-sixteenth century ranged from twenty to forty people and when they came up for renewal each year, it allowed the *cabildo* to collect another fee. For example, in January 1561, the town council asked thirty-eight merchants to present their licenses for renewal.⁸⁸ While official laws provided inspectors the clout to shut down illegal businesses, inspectors accepted bribes from shop owners wishing to bend the rules in their favor.⁸⁹

Council members cloaked their various motives for controlling alcohol sales in the language of public health. Diego de Porras to denounce renegade taverns in 1575 "...[T]here are some taverns that sell wine even though they do not have licenses, or did they ask for them. [We should revoke all alcohol licenses] because there is a need for order, such as not selling licenses to young, single, and healthy men."⁹⁰ Apt to ignore municipal laws by creating informal *pulperías* in their homes, young men could not be trusted. Porras warned that these illicit spaces were a breeding ground for more problems because the clientele quickly turned vicious and

⁸⁷ Ibid., 50.

⁸⁸ 17 January 1561 in Consejo de Lima, *Libros de Cabildos*, 7:352.

⁸⁹ Jane Mangan, *Trading Roles*, 55.

⁹⁰ *Se trató de que al principio deste año se quitaron las licencias de taberneros que vendían vino y sin embargo de que no tienen ni algunos la han pedido lo vendan como antes y que hay necesidad de dar orden como no lo vendan hombres mozos, solteros y sanos...* 11 February 1575 in Consejo de Lima, *Libros de Cabildos*, 8:68.

black patrons conspired in the sale and trade of stolen goods.⁹¹ The *cabildo* cited problematic drunks when explaining why *chicha* taverns should ban indigenous patrons. The minutes from a 1572 meeting began:

In the town council, councilmen addressed the great harm that follows and reoccurs with the production of corn *chicha*. It causes many illnesses and deaths among the Indians, and it is quite necessary to remedy this matter so that there are fewer drunken revelries than there have been lately among the Indians.⁹²

Town councilmen framed their policies as a public health concern. In order to curtail illness, death, and immoral behavior, municipal leaders needed to control and regulate alcohol consumption among certain groups of people.

Despite the decrees banning blacks and Indians from owning or frequenting taverns and *pulperías*, African- and Indian-descent women continued operating these businesses. When Viceroy Toledo when heard rumors that free black women were operating taverns in Cuzco and distributing *chicha* liberally to Indians and blacks, he closed the taverns and banned *chicha* production and sales.⁹³ When Lima's *cabildo* implemented similar measures, one black mulatta successfully petitioned the town council to keep her tavern open.⁹⁴

The *cabildo* employed inspectors to promote their alcohol policies. One area that they oversaw was the sale of wines arriving from Spain and Peru's southern coast. Venders sold wine in bottles at a set price for a certain volume, but sometimes

⁹¹ Ibid.

⁹² 4 July 1572 in Consejo de Lima, *Libros de Cabildos*, 7:308.

⁹³ Frederick Bowser, *The African Slave in Colonial Peru*, 108.

⁹⁴ Ibid., 109.

those bottles contained less than the indicated amount.⁹⁵ In addition to cheating the customer, the *cabildo* claimed that product inconsistency harmed the republic and the poor. To prevent such scandals, the town council ordered an official to register all wine bottles in the city, verifying that each contained the correct amount.⁹⁶ Wine regulations circulated through Lima's municipal and royal legislative channels, and by the late sixteenth century the viceroy established guidelines for the sale and distribution of alcohol. His ordinances called for licensed merchants who were respectable, married, Spanish men, "...[n]ot cohabitating, nor a foreigner or someone with a bad reputation."⁹⁷ And to discourage patrons from spending more time in taverns, the viceroy prohibited them from offering rooms or food.⁹⁸ These controls set a standard for who could distribute and sell wine in public spaces, legally limiting these activities to Spanish married men, with no government connections, an ethical issue recognized by the viceroy's requirement that wine vendors could not partner with *cabildo* members.

The consumption and sale of *aloja* created another channel through which councilmen influenced alcohol production and distribution. In 1613, *aloja* came under the scrutiny of the municipal government. Championing standards for the manufacture of *aloja*, Simón Luís de Luçio, a town council member, testified before the *cabildo* that its proper preparation was essential to the health and wellbeing of the

⁹⁵ 12 August 1558 in Consejo de Lima, *Libros de Cabildos*, 6:86.

⁹⁶ 11 November 1558 in *ibid.*

⁹⁷ *Los vendedores serán casados, no solteros ni amancebados, de mala opinión y tratos, ni extranjeros.* 24 January 1594 Consejo de Lima, *Libros de Cabildos*, 12:674.

⁹⁸ *Ibid.*, 674-675.

city. Luçio presented his committee with a list of proposed ordinances for *aloja*'s sale and production. He insisted that his ideas "...[b]est suit the health and universal wellbeing of this Republic..."⁹⁹ The new legislation took into careful consideration *aloja*'s ingredients, especially the proportion of water to alcohol and its temperature. As they had with tavern wines, urban elites worried about the dangerous combination of water and spirits in this beverage. The *cabildo* restricted the ratio of water to honey to 16:1. Within those seventeen ounces, distillers could add an ounce of pepper and other spices.¹⁰⁰ Fermentation times were limited according to season: one day in summer and two days in winter.¹⁰¹ Moreover, the *cabildo* did not want merchants speeding up the time it took *aloja* to cool down by adding snow. Snow mixed with *aloja* made for an extremely cold drink with disastrous consequences.¹⁰²

Councilmen wielded considerable influence over both colonial bodies and alcohol sales through public health standards. Luçio's intervention into *aloja* production highlights a gap between the theory and implementation of medical knowledge. Even if Lima's physicians agreed that controlled alcohol production benefited society, they were limited in the actions they could take. In this case, it took only one council member to intervene and change consumption practices. And Luçio

⁹⁹ Simón Luís regidor y procurador general desta ciudad hago presentación ante Vuestra señoría de las ordenanzas que me mandó hacer acerca de la *aloja* conforme a los dichos y declaraciones de los médicos que en esta causa han declarado en cuya conformidad y de lo que más conviene a la salud y bien universal desta república. 10 March 1613 in Consejo de Lima, *Libros de Cabildos*, 17:313.

¹⁰⁰ 23 January 1625 Consejo de Lima, *Libros de Cabildos*, 20:271.

¹⁰¹ 10 March 1613 in Consejo de Lima, *Libros de Cabildos*, 17:313.

¹⁰² *Ibid.*, 314.

did so without any special qualifications. Nevertheless, his deductions made sense to the colleagues who generally supported his initiative.

Lima's taverns also proved difficult to regulate despite the administrative apparatus put in place by the *cabildo*. Years after the *aloja* ordinances were passed, the town council worried that merchants used snow in the cooling-down process and ignored approved recipes.¹⁰³ Part of the problem was a lack of infrastructure to monitor every venue of alcohol production and consumption; keeping the poor and non-Spanish community away from alcohol was unlikely to succeed.

Rhetorical tropes about black and indigenous bodies were used to promote policies that strengthened the *cabildo*'s influence over the labor supply and the urban economy.¹⁰⁴ Mónica Morales contends that representation of black and indigenous drinking validated the conquest and the Spanish occupation of the Americas.¹⁰⁵ Encounters between urban denizens in Lima's taverns and shops created a space of cultural interaction and exchange that reaffirmed urban elites' conceptualization of colonial bodies and the inherent differences between them. Municipal leaders relied on drinking stereotypes to construct cultural differences within colonial society. By portraying drunk blacks and Indians as reckless, irresponsible, and dangerous, town councilmen created a discourse that justified their regulation of alcohol consumption and sales.

The restriction of drinking and taverns to specific groups of people was not new to colonial Latin America. Similar prohibitions and social pressures kept limited

¹⁰³ 23 January 1625 Consejo de Lima, *Libros de Cabildos*, 20:271.

¹⁰⁴ Mónica P. Morales, *Reading Inebriation*, 5.

¹⁰⁵ *Ibid.*, 7.

the diversity of tavern patrons and their interactions. So, just as in colonial Latin America women and children typically did not drink in taverns.¹⁰⁶ And although the one of the largest ethnic groups on the peninsula, Muslims, did not drink in accordance with their faith, that did not stop royal and municipal leaders from overseeing public mingling between Christians, Jews, and Muslims. The fear that taverns fostered trouble between people of different social backgrounds is expressed in medieval Iberian laws. For example, in fourteenth-century Valencia, royal decrees forbade Christian prostitutes and Muslims from speaking to one another in taverns.¹⁰⁷

4.5 Conclusion

Municipal leaders invoked the discourse of food, bodies, and health when creating policies that addressed not only consumption, but also social and economic concerns. Food was a powerful environmental force, capable of healing bodies or condemning them to illness and degeneration. The *cabildo* used this knowledge to their benefit. They justified many food ordinances by citing public health concerns: rotten meat versus healthy; drunk, wild Indians and blacks vs. moderate Spaniards; responsible fishing poles vs. ecologically devastating nets; timely meals in contrast to disorganized councilmen portrayed themselves as a necessary force of good government.

¹⁰⁶ Grace E. Coolidge, *The Formation of the Child in Early Modern Spain* (Burlington: Ashgate, 2014), 216.

¹⁰⁷ Trevor J. Dadson, *Tolerance and Coexistence in Early Modern Spain: Old Christians and Moriscos in the Campo de Calatrava* (Rochester: Tamesis, 2014), 77 and Mark Meyerson, Edward D. English, eds., *Christians, Muslims, and Jews in medieval and early modern Spain* (Notre Dame: Notre Dame Press, 2000).

According to the *cabildo*, without their guiding hands, Lima marketplaces, taverns, and hospitals would descend into chaos. Unhealthy consumption practices hurt people, and since everyone had to eat, these issues naturally fit within the municipal government's role. In this manner, the *cabildo* simultaneously weaved together its interest in public health, the urban economy, the labor supply, and the conduct of non-Spanish residents.

CHAPTER 5

HEALTHY LANDSCAPES

5.1 Introduction

Martín de Cañas had the unfortunate luck of living next to Callao's slaughterhouses. Almost every aspect of the butcher's business threatened his own health. The trouble started early in the morning when merchants pulled up with horse-drawn carts. While their masters went inside, the horses passed the time by defecating and peeing all over the street. The combination of horse feces and urine produced a potent smell that intensified under the morning sun. Malodorous vapors drifted up into Cañas' home. He claimed the miasmas were so strong that they "[e]at the walls, [and as a result] could cause most of my home to collapse."¹ But Cañas' problems did not end there; nightfall brought more horrors.

Purportedly, thieves crept along the slaughterhouse's perimeter looking for weak spots where they could break through. Cañas slept fitfully, waking up at every sound. And if he were to investigate a strange noise, he could not stand up without stepping in a pool of blood. When the butcher hung carcasses to drain, their remains dripped and flowed under Cañas' bedroom door. Exhausted, Cañas petitioned the *cabildo* to order the butcher to patch his wall and keep the property clean. For its part,

¹ Come las paredes y me puede caer la mayor parte de mi casa. 29 October 1612 Consejo de Lima, *Libros de Cabildos*, 17:219.

the town council appointed an executor to investigate and resolve the matter.²

Slaughterhouse smells disrupted Cañas' quality of life. But the problem did not stop with him noxious airs could easily spread through the port and contaminate people and goods heading into the city. Although the *cabildo* records do not reveal what happened to Cañas, his dilemma highlights what he believed was his undeniable right as a lawful citizen: the freedom to live without exposure to excessive and oppressive miasmas.

Many early-modern physicians, topographers, and other members of society recognized the benefits of clean air and healthy lands.³ In the Americas, European pathogens unleashed waves of disease across North, Central, and South America, the consequences of which carried over well into the seventeenth century.⁴ Epidemics reinforced municipal officials' preoccupation with healthy lands and airs. Fresh airs and clean environments became a key objective of Lima's public health agenda. Municipal leaders made it their mission to create a salubrious cityscape.

As part of their public health agenda, municipal leaders made a concerted effort to eradicate bad airs and sanitize public spaces. The pursuit of a healthy city demanded public hygiene and disease prevention. Through programs sanitation, animal regulation, and recreation programs, town councilmen simultaneously promoted public health and exercised social control over how individuals interacted with and maintained healthy landscapes.

² Ibid., 219-220.

³ Mary J. Dobson, *Contours of Death and Disease*, 26.

⁴ Ann Jefferson and Paul Lokken, *Daily Life in Colonial Latin America* (Santa Barbara: Greenwood, 2011), 81.

5.2 Defining Healthy Landscapes

How the environment smelled, called smellscape, is essential to understanding public health in colonial Lima. Yet, only recently have smellscapes become popular in urban environmental histories.⁵ Smell is a useful analytical tool because it allows us to uncover another layer of city life. Smells are not random; they correspond to a source, airflow, and distance from that source.⁶ Armed with this knowledge, smells can be mapped onto cities in colonial Latin America and reveal the relative health or unhealthiness of a particular area. Healthy, fresh airs indicated salubrious environs. By contrast, negatively perceived odors such as butcher yards, dung piles, and backed up latrines indicated a greater risk to public health.

Municipal leaders focused much of their energy on eliminating negative smells. Emily Cockayne's touches on this in her study of early-modern England. According to Cockayne, municipal laws worked to shield citizens from the discomfort of breathing in harmful airs.⁷ For example, Norfolk's ordinances made pest houses, candle makers, breweries, pig farmers and dog breeders operate their trades outside of the city. Victoria Henshaw observed a similar trend, noting that urban legislation largely emphasized controlling odor emissions rather than promoting

⁵ Madalina Diaconu, "Mapping Urban Smellscapes," in *Senses and the City: An interdisciplinary Approach to Urban Senses*, ed., Madalina Diaconu, et al. (Wein: Lit, 2011), 223; Victoria Henshaw, *Urban Smellscapes: Understandings and Designing City Smell Environments* (New York: Routledge Taylor & Francis Group, 2014); Johnathan Reinartz, *Past Scents: Historical Perspectives on Smell* (Urbana: University of Illinois Press, 2014); and Mirko Zardini and Wolfgang Schivelbusch, *Sense of the City: an alternate approach to urbanism* (Montreal: Canadian Center for Architecture, 2005).

⁶ John Douglass Porteous, *Landscapes of the mind: worlds of sense and metaphor* (Toronto: University of Toronto Press, 1990), 26.

⁷ Emily Cockayne, *Hubbub*, 18.

positive smell encounters.⁸ Even today, we associate sanitization with masking of unpleasant smells or removing environmental odors all together.⁹

A smaller number of urban policies created positive smellscape, geared towards the leisurely activities. One important example of this was the *alameda*, a tree-lined path that appeared in many Latin American cities.¹⁰ *Alamedas* provided recreational spaces for walking and absorbing fresh, rejuvenating airs.¹¹ Yet, despite the public nature of parks, scholar Henry Lawrence suggests they catered to local elites. In Mexico City and Lima, Lawrence found that the *Peninsulares* and Creoles descended on the *alamedas* for their evening promenades.¹²

The opposite of green spaces, deforestation, stirred debates on benefits yielded from gardens, boulevards and forests. The Iberian navy illustrates the balance that politicians struck between conservation and industry. The demand for wood in the shipbuilding trade contributed to perceivable and alarming rates of deforestation. In Spain, however, it also inspired the state to tightly control this resource. Historian

⁸ Victoria Henshaw, *Urban Smellscapes*, 15.

⁹ Jim Drobnick, *The Smell Culture Reader* (Oxford: Berg, 2006), 86.

¹⁰ Arturo Almandoz, *Planning Latin America's Capital Cities 1850-1950* (London: Routledge, 2002); Paul Niell, *Urban Space as Heritage in Late Colonial Cuba: Classicism and Dissonance on the Plaza de Armas of Havana* (Austin: University of Texas Press, 2015), 98; Kelly Donahue-Wallace, *Art and Architecture of Viceregal Latin America, 1521-1821* (Albuquerque: University of New Mexico Press, 2008), 215; Henry W. Lawrence, *City Trees: A Historical Geography from the Renaissance Through the nineteenth century* (Charlottesville: University of Virginia Press, 2006), 95 and Benjamin Ward Richardson's depiction of the utopian urban environment "Hygeia" in 1875 contained shaded paths, sun-filled streets, with no pubs, alcohol or dark chimney smoke. In Tom Crook, "Healthcare and public and private space," in *Healthcare in Private and Public from the Early Modern Period to 2000*, ed., Tom Weindling (New York: Routledge, 2015), 88.

¹¹ Laura Williams, "Green space and the growth of the city," in *Imagining Early Modern London: Perceptions and Portrayals of the City from Stow to Strype 1598-1720* (Cambridge: Cambridge University Press, 2001), 211.

¹² Henry Lawrence, *City Trees*, 96.

John Wing contends that forestry management drove the processes of state formation. The Crown expanded its control over Iberian woodlands and by doing so expanded its bureaucratic network through replantation programs and new forestry offices.¹³ Although Wing does not describe these efforts in terms of health, he notes that Madrid's bureaucrats viewed conservation as benefiting the public good. Municipal leaders in Madrid valued natural resources and protected them. This protective instinct transferred to Latin American municipalities.

Early descriptions of Lima illustrate how Spanish conquistadors and colonizers thought about their environment, cities, and human health. Perhaps most important were its airs, waters, lands and the presence of trees and vegetation. When Francisco Pizarro described Lima's valley he calculated its suitability.¹⁴ Other portrayals highlighted the bounty of food "...[Peru's] northern and southern coast enjoy the most fertile valleys, healthy and high mountains, and lands that produce the finest bounty of bread, wine, olive oil, meats, fish, and fruits in the Indies."¹⁵ The same author commented that the site selected for Lima "...is healthy, beautiful, open, happy, and capable of providing everything that one might need..."¹⁶ These descriptions emphasize the centrality of clean air, trees, and land to human survival and the welfare of the municipality.

¹³ John T. Wing, "Keeping Spain Afloat: State Forestry and Imperial Defense in the Sixteenth Century," *Environmental History* 17 (2012): 116.

¹⁴ Consejo de Lima, *Libros de Cabildos*, 1:2.

¹⁵ Y por la costa boreal y austral goza fertilísimos valles, saludables y altas serranías de que se produce el mejor bastimento de pan, vino, aceite, carnes, pescados, y frutas que se gasta en las Indias. AGN, Diversos-Colecciones, 44, N.85. f. 1v. (1581).

¹⁶ El sitio es sano, hermoso, llano, alegre, y capaz de disponer en el todo lo necesario para el regalo. Ibid., f.2r.

The town council used geography to limit noxious airs to specific neighborhoods. The *cabildo* set boundaries for its slaughterhouses, fish market, and tanners. Lima's residents expected and accepted certain odors. However, some miasmas, such as those produced by excrement, entrails, rotten meat and fish, and trash were intolerable to their sensibilities.¹⁷ Because these smells were the most offensive and considered the most dangerous, the local government monitored them and worked to reduce them. For example, animals and certain trades disrupted the lives of denizens with hazardous waste and odors, and thus municipal leaders controlled where they were allowed to move or operate within the city.

The city's social geography mirrored urban air quality. Elites living near the purest airs, leaving the poorer and middling classes to confront a disproportionate number of unhealthy aromas. In the *traza*, the most prominent and important buildings bordered the main plaza. Smells demarcated location as much as any visual or auditory cues. The city center enjoyed some of the healthiest airs and their quality declined in other areas.

Owing to the belief that Lima's winds blew from the south and thus pushed unhealthy airs northward, the most harmful trades set up shop north of the central plaza. For example, city's first slaughterhouses and butcher shops were located just on Rímac's southern bank. This arrangement lasted until 1569, when the *cabildo* moved these industries to the San Lázaro neighborhood. Later, in 1601, the *cabildo* established the fish market, which was located on the backside of the of the

¹⁷ Jill Steward and Alexander Cowan, "Introduction," in *The City and the Senses: Urban Culture Since 1500*, ed., Alexander Cowan, et al. (Aldershot: Ashgate Publishing Limited, 2007), 16.

Archbishop's palace along San Francisco street.¹⁸ The river attracted some of Lima's most noxious artisans; the riverbed provided a place to dump runoff such as chemicals and carnage. For the most part, municipal leaders allowed this dumping to take place because they viewed the river as a physical divider between themselves and pungent areas.

Smellscapes influenced architectural styles and living accommodations. For example, most homes were at least two stories high with open-air spaces. Patios, courtyards, and gardens provided the benefits of the outdoors (fresh air and pleasing aromas) without exposing bodies to urban ills. Wealthy homes could include the family, unmarried daughters, widows, distant relatives, domestic servants, and the patriarch's illegitimate children.¹⁹ Elites rented out rooms or shops on the first floor of their residence and typically occupied the second floor. These vertical separations meant that wealthier homeowners were distanced from the city's noxious airs and that tenants lived much closer to the street and its offensive matter.

Architects intentionally designed buildings with windows to capture fresh breezes. Cobo reinforces this point, noting that Limeños intentionally placed their windows facing southward "...[t]o enjoy freshness in the summer...and to benefit from a healthy, pleasing breeze."²⁰ Pacific breezes cleansed the land, pushing noxious airs out and filling homes with sweet smells. By the same token, too much air could be a bad thing. Interior bedrooms often lacked windows because, especially in case of

¹⁸ Juan Bromley and José Barbagaleta, *Evolución urbana*, 16.

¹⁹ Ann Jefferson and Paul Lokken, *Daily Life*, 68.

²⁰ Miren las ventanas al sur...para gozarse de una saludable y deleitosa brisa que regaladamente refresca. Bernabé Cobo, *Historia de la fundación*, 53.

illness, cold airs could be harmful.²¹ A limited number of windows and courtyard spaces gave residents control over when let airs in.

Town councilmen relied extensively on miasma theory to evaluate the city's health. Wrapped within their assessment were the symbols of urban health: the absence of air pollutants such as dung and animals and the creation of green spaces that counteracted the unpleasant airs.

5.3 Waste Removal

The local environment and existing infrastructure shaped how municipalities handled waste. On the Iberian Peninsula, municipalities dealt with this issue differently depending on whether or not the city had been populated during the Roman and Arabic periods. So for example, municipalities such as Valencia benefitted from the presence of underground sewers. During the sixteenth century, irrigators used the river to flush wastewater out of the canals once a week.²² By contrast, newer towns such as Madrid and Valladolid did not have an established system to draw from and residents dumped sewage and trash outside their homes, without the advantage of irrigation canals. Pools of urine and stools quickly turned unpaved streets to mud and tainted the landscape with a horrendous odor.²³

While Lima did not have underground sewers, it did benefit from the pre-Hispanic *acequias* that doubled as irrigation canals and drainage systems. Yet the intermittent supply of water meant that the *acequias* did not always run flush with

²¹ Pedro Cieza de León, *Crónica del Perú*, 150-151.

²² James Casey, *Early Modern Spain*, 33.

²³ Ibid.

water, and sometimes levels were too low to flush out the canals completely.

Consequently, municipal officials in Lima and other coastal cities such as Piura and Trujillo tried to redirect trash and sewage away from the acequias and into latrines and trash heaps.²⁴

Lima's residents dumped their waste in all three. Some contamination was unintentional because latrines were not watertight and leaked easily. However, most of the city's pollution problems resulted from the deliberate actions of citizens who favored convenience over conscientiousness. This outlook was quite normal for Latin American and European societies at the time. In England, homeowners relied on night work crews to sweep up solid waste. Easement houses presented other challenges such as the fact that privies overflowed, swarms of flies and maggots feasted on their contents, and according to the most vehement critics, infants drowned in the cesspits.²⁵ Outhouses concentrated intense miasmas in one location.

Urban waste disposal came down to expediency. Residents wanted to get festering trash out of their homes, but did not seem to mind where it ended up. Local attitudes made regulation a challenge for the *cabildo*.²⁶ One statute explicitly stated, "Firstly, it is ordered and mandated that no *vecino*, nor official, nor merchant dispose of trash within the city unless it is in a location indicated by the *fiel*." This declaration implies residents knew the exact location of the depository. In practice, however,

²⁴ A. Reyes-Knoche "Sanitation and wastewater in the Central Andean Region, Peru: An overview from Pre-Columbian and Colonial times to nowadays," in *Evolution of Sanitation and Wastewater Technologies through the Centuries*, eds. Andreas N. Angelakis, et al. (London: IWA Publishin, 2014), 84.

²⁵ Emily Cockayne, *Hubbub*, 143.

²⁶ Primeramente ordenaron e mandaron que ningún vecino desta ciudad ni oficial ni mercader eche basura ninguna dentro de la ciudad sino fuere en lugares que el fiel señalare. 16 June 1536 Consejo de Lima, *Libros de Cabildos*, 1:96.

disposal guidelines were loosely followed, and it was just as common for people to create and use informal trash hills. As shown below, just about any dark corner or brick wall would suffice for an impromptu pile.

Reports of illicit trash heaps abounded during the colonial period and their presence posed a problem to public health and civic order. Illicit piles often appeared alongside walls and fences, structures that could hold them up as material accumulated. Damp, sticky stains appeared where trash met walls and other surfaces. This dark stain was considered the most dangerous part of the entire pile because of its moisture content. Humidity inflicted environmental havoc both on the body and manmade structures. In humans, excess humidity contributed to melancholic and phlegmatic humors. In roofs or walls, humid miasmas could eat right through the structure. Waste threatened bodies and the city's physical integrity.

As the friars of the San Francisco monastery (located two blocks east and one block north of the central plaza) learned, no grounds, not even holy grounds, were exempt from accumulating unwanted waste. Unfortunately for the friars, their property contained an ideal spot for dung: a small space behind the cemetery wall. It was an area with less foot traffic than other public spaces, and few living neighbors, aside from the friars, who would take offense to the smell. Despite the friars' efforts to stop informal dumping, every day people added new contributions. After years of tolerating the mess, the friars finally came up with a solution to end their curbside appeal: extending the parapet of the cemetery to the property's perimeter, effectively enclosing the space in question.²⁷ The viceroy sent commissioners to investigate the

²⁷ 2 August 1596 Consejo de Lima, *Libros de Cabildos*, 12:522.

friars' claims. On reviewing their report, the viceroy gave the friars permission to reconfigure the wall.²⁸ The friars gladly rebuilt the wall and erased the corner that had attracted waste and rubbish for years. Now a rectangular wall boxed in the cemetery. And while the friars rid themselves of their nasty problem, dozens of illegal, unsightly heaps remained in use.

During the same time period, the nuns of La Concepción (located four blocks east and one block south of the main plaza) struggled with a huge trash pile that had formed alongside their convent. The mound was so large that its towering height threatened to spill either onto the roof of the convent or into the street. The abbess, doña Isabel de Uceda y Jesús, decried that the trash pressed up alongside the monastery's walls and it had become so large that it towered over the walls themselves. She explained:

The rubbish pile is leaning against walls that are very high, but it is creating humid conditions that could cause the walls to collapse as has happened before. This would be a huge expense and a lot of work for the monastery. It is only fair that this situation be remedied before such a catastrophe occurs.²⁹

Abbess Isabel asked the *cabildo* to remove the heap before it triggered a larger problem. Two municipal officials, Domingo Garro and Luis Rodríguez, reviewed the matter and ordered the pile's removal in conjunction with others found outside the San Francisco Monastery and San Marcelo church.³⁰

²⁸ 12 July 1602 Consejo de Lima, *Libros de Cabildos*, 14:130-131.

²⁹ Está un muy gran muladar de que recibe mucho daño porque demás de poder subir por el por estar muy alto a las paredes está en la que está arrimado muy húmida y que dello podrá resultar caerse como otra vez hizo de redundo mucho trabajo y costa al dicho monasterio y que era justo se remediase antes que sucediese el dicho daño. 21 January 1604 Consejo de Lima, *Libros de Cabildos*, 14:929.

³⁰ August 1596 in Consejo de Lima, *Libros de Cabildos*, 12:522.

These episodes all illustrate instances in which illegal trash heaps appeared alongside religious institutions. There may be several reasons for this phenomenon. One may be the lack of neighbors. It was less likely that the institution's occupants (versus a street full of houses) would have recognized or noticed an illegal dumper. Religious institutions also had something that the average street did not: open space. Large yards, gardens, and cemeteries made appealing targets. Also, dumpers may have felt that the institution was better equipped to deal with removing the pile.

Public streets and plazas also suffered from indiscriminate dumping; storeowners, merchants, journeymen, and artisans exacerbated the problem. The laboring classes often worked in small workshops attached to a home. They purchased raw materials such as leather, flour, silk, wool, cotton, and silver and turned it into products that they could sell in a shop or in the marketplace. Shopkeepers swept out their storefronts and dumped trash into the street. Merchants relied on horses and mules to cart goods in and out of the marketplace and cattle drivers drove beasts through town. As hordes of beasts moved through city streets they kicked up so much dust and dirt that bystanders worried for their own wellbeing.³¹ In the eighteenth century, the travel account of Jorge Juan and Antonio de Ulloa artfully described this situation "...[o]n account of the numberless droves of mules which continually pass thro' Lima, and cover the streets with their dung, which being soon dried by the sun and the wind, turns to a nauseous dust, scarce supportable

³¹ 4 January 1577 in Consejo de Lima, *Cabildos*, 8:369.

to those who walk on foot.”³² Dusty clouds and droppings followed animals across the city.³³

Spanish officials used sanitation policies to oblige citizens to conform to their vision of civic obedience and public hygiene.³⁴ When creating the salaried office of sanitation inspector, the *cabildo* described the post as a way to save money and preserve public health. The sanitation inspector would oversee consistent public hygiene and thereby eliminate the cost of emergency cleanup. Furthermore, trash removal would protect public health “...because human lives are most important thing that he should attend to.”³⁵ For their part, town councilmen tried to compel residents to respect their properties and public spaces by keeping them clean and maintained. To that end, they passed a series of measures instructing homeowners to keep their yards and acequias clean. The Council of the Indies reinforced this admonition, instructing Lima’s officials to forbid citizens from allowing their *inmundicias* [literally filth or nastiness] to flow from their yards into the street or acequias.³⁶ Another royal mandate declared that for the city’s health it was necessary

³² Jorge Juan and Anonio de Ulloa, *A Voyage to South America* (London: J. Bretiell, 1807), 54.

³³ 29 April 1555 Consejo de Lima, *Libros de Cabildos*, 5:279 and Frederick Bowser, *The African Slave*, 96.

³⁴ Bianca Premo describes one case where a wealthy elite, Luis Pecador, used manure as leverage to build Lima’s first orphanage. He claimed that orphaned babies were being dumped in expected places such as churches and private homes, but they also wound up in manure heaps and the aqueduct. *Children of the Father King: Youth, Authority, and Legal Minority in colonial Lima* (Chapel Hill: University of North Carolina Press, 2005), 97.

³⁵ Las vidas es lo principal a que se debe acudir.

³⁶ 19 November 1551 Consejo de Lima, *Libros de Cabildos*, 1:53.

to keep city streets clean.³⁷ Municipal laws ordered residents to follow sanitary practices at home, and if they were to comply, it would have significantly reduced the quantity of noxious airs.

Domestic sanitation laws articulated what royal and local bureaucrats wanted from Lima's residents, but in practice, the *cabildo* could not count on their collaboration. Urban denizens continued dumping indiscriminately. In October 1549, a *cabildo* report claimed that that with no one available to execute a cleanup, individual homeowners needed to tidy their properties or face a two-peso fine.³⁸ Attempting to motivate their cooperation, the town council sent an *alguacil* to remind homeowners of municipal sanitation laws. They empowered the *alguacil* with the ability to fine those who continued dumping waste on their own properties.³⁹

Unruly dumping forced the *cabildo* to seek an alternative solution to the city's sanitation problems. Lima's town council experimented with coerced labor systems to maintain public hygiene. This was the primary response of the municipal government to deal with illegal trash heaps cropping up across the city. The piles became miasmatic disasters that concentrated dung, trash and the corpses of rotting dogs.⁴⁰ Of course, someone had to pay for men and women to scrape refuse off the ground and haul it away. To fund for these services, *vecinos* paid a tax to fund trash removal.⁴¹ In December 1555, councilmen could not ignore the putrid smells coursing through the

³⁷ BRAH, Colección Mata Linares, 22, ff. 140r.-143v. "Ordenanzas de Carlos I para el buen gobierno de la ciudad de Lima," Madrid (19 November 1551).

³⁸ 22 October 1549 in Consejo de Lima, *Libros de Cabildos*, 4:189.

³⁹ 11 October 1549 in Consejo de Lima, *Libros de Cabildos*, 1: 187.

⁴⁰ 9 August 1619 Consejo de Lima, *Libros de Cabildos*, 18:701.

⁴¹ Ibid.

city. Their meeting notes confessed "...[Lima] is full of filth and the *cabildo* should order that by one form or another it be clean."⁴² Working towards this vision, the *cabildo* initially proposed organizing groups of free black men and women to form sanitation crews:

It is ordered and mandated that from today forward, the free black men and women...are obliged to clean, at their own expense, all of the streets and plazas of this city...and a faithful executor [should be present] to hurry them along...and if they [the free blacks] do not want to do it the executor can take prisoners from the public jail [to clean the streets and plazas].⁴³

The language of this mandate is unusual because it did not force free blacks to tend to sanitation issues. While it obliged them, there were no consequences if they did not follow through. Instead, the *cabildo* offered a loophole: in the event that their initial proposal failed, they would force prisoners to do it. Evidently, this scheme did not work either, because just three years later the *cabildo* took a completely different approach.

In the next phase of urban sanitation, the *cabildo* transferred the entire operation to the hands of Indian *alguaciles*. Essentially, the *cabildo* entrusted indigenous leaders to manage indigenous laborers in what became known as *limpiezas* [cleanups]. Under this arrangement, the municipal government paid a flat fee to the *alguaciles* who organized a group of Indian laborers taken from the *mita*.

⁴² Está llena de inmundicias y que conviene dar orden como por alguna vía sea limpie. 3 December 1555 Consejo de Lima, *Libros de Cabildos*, 5:356.

⁴³ Ordenaron y mandaron que de hoy en adelante los dichos negros y negras horros que al presente hay y adelante hubieren tengan cargo y cuidado y sean obligados a limpiar a su costa todas las calles y plazas desta ciudad por la orden que esta ciudad o los fieles ejecutores della les dieren y porque al presente Francisco Hernández negro horro es antiguo y conocido casado y hacendado en esta ciudad por el tiempo que fuere la voluntad por tanto que lo nombraron y nombraron por almotacén executor para ello y para que pueda traer...hagan la dicha limpieza de las dichas inmundicias y no queriendo hacer los pueda apremiar y prender y traer presos a la cárcel pública desta ciudad y sus calles prendidos. Ibid., 356-357.

The laborers worked for the *alguacil* in exchange for food rations and a small sum of money.⁴⁴ Under the *alguaciles*, work crews walked through the city cleaning up trash and dung and carting it outside of the city.⁴⁵

Yet, the *alguaciles* could not keep up with the demographic growth and the sanitation program adapted to keep up with demand. These innovations occurred at two distinct periods in Lima: in the mid-1550s and at the very end of the sixteenth century. Just as they centralized water administration under the *juez de aguas*, the *cabildo* also created several new positions to oversee urban hygiene. How municipal leaders delegated sanitation changed a few times in the mid-sixteenth century. Owing to a number of sanitation crises, Lima's town council expanded its bureaucratic offices to manage water and sanitation separately. Town councilmen revamped the approach to public hygiene by appointing several men to the newly created office of sanitation inspector [*almotacén*].⁴⁶ Sanitation inspectors worked in exchange for a salary. Their duties included several tasks such as overseeing indigenous work crews and issuing citations for municipal code violations.⁴⁷

The *cabildo* projected itself as the leading local authority on environmental matters. In times of health and epidemic, town councilmen progressively incorporated smellscape under their jurisdiction. One important change removed indigenous role in urban sanitation. In 1580, Spanish men replaced all Lima's indigenous

⁴⁴ 4 February 1558 Consejo de Lima, *Libros de Cabildos*, 5:f. 20v.

⁴⁵ 18 September 1581 Consejo de Lima, *Libros de Cabildos*, 9:436.

⁴⁶ 25 August 1556 Consejo de Lima, *Libros de Cabildos* 5:516.

⁴⁷ 18 January 1575, 22 January 1574 and 1 March 1574 in AHML Consejo de Lima, *Libros de Cabildos*, 6:ff. 229r., 231r. and 237r.

alguaciles.⁴⁸ This move provided the town council with a direct role over the Indian laborers who cleaned and maintained public spaces.

Miasma discourse became a means for the sanitation bureaucracy to continue growing. Citing a spreading sickness and the presence of corrupt airs, *alguacil* Diego Carbajal petitioned the council to expand his fleet.

The city grows sicker, and we [the town council] understand that part of this comes from the bad vapors of the land and the corruption of the air, the majority of which is caused by the bad odors and nastiness in the dung heaps, streets, and *acequias*. At present we fear an outbreak of pestilence or illness.⁴⁹

Carbajal argued that it was necessary to fund these programs in order to remove “bad odors.”⁵⁰ The town council agreed, on the condition that the city’s *mayordomo* monitor their use.⁵¹ Slaves supplemented indigenous laborers in specific tasks such as carting dung and trash to Lima’s outskirts. And if the circumstances warranted it, the *cabildo* funded additional carts, mules, wage laborers and slaves.⁵² As the municipality accumulated animals and materials, the *alguacil*’s position evolved to include feeding mules and repairing carts.⁵³

⁴⁸ 8 January 1585 and 12 January 1594 in Consejo de Lima, *Libros de Cabildos*, 10:147 and 12:45.

⁴⁹ En este cabildo se trató de que esta ciudad se va haciendo muy enferma y que se entiende que parte dello procede los malos vapores de la tierra y de la corrupción de los aires los cuales por la mayor parte vienen de los malos olores inmundicias que hay en los muradales y por las calles y acequias y que de presente hay temor de pestilencia o enfermedades. 28 November 1572 in AHML Consejo de Lima, *Libros de Cabildos*, 6:f. 152r.

⁵⁰ Malos olores. 23 January 1576 in Consejo de Lima, *Libros de Cabildos*, 8:179.

⁵¹ 20 February 1576 in Consejo de Lima, *Libros de Cabildos*, 8:197.

⁵² 4 January 1636 in Consejo de Lima, *Libros de Cabildos*, 23:300.

⁵³ 6 March 1603 in Consejo de Lima, *Libros de Cabildos*, 14:367-370.

Despite the power delegated to the *alguacil*, Lima's the *cabildo* had the last say in public hygiene, intervening whenever it saw fit. When deemed appropriate, the *cabildo* circumvented the *alguacil* (who should have been overseeing waster removal) and initiated their own clean ups. Some of these events were fairly innocuous, such as special funds dedicated to cleaning up after Holy Week celebrations.⁵⁴ On the other hand, other episodes questioned the *alguacil*'s competency entirely. For example, in 1602, the *cabildo* sacked Alonso Dávila when the city fell into squalor "The city was very dirty and there were sporadic rubbish heaps on every street that you could not get around, and Alonso Dávila, the salaried person in charge of clean ups did not do what was required."⁵⁵ Just a month after taking office, Dávila was out and the water judge, Andrés Sanchez, assumed his responsibilities.

In a larger shakedown, the *cabildo* fired five sanitation officials. The officers were part of a newly created task force, introduced by sanitation inspector Diego Darce.⁵⁶ After a series of devastating epidemics in 1618, Darce successfully advocated for a larger sanitation crew that could more efficiently reduce pollution, noxious airs and illness. His plan called for an overhaul of public hygiene to remove any last vestiges of disease, and in particular the large unsightly dog and horse

⁵⁴ 8 March 1585 in Consejo de Lima, *Libros de Cabildos*, 10:174.

⁵⁵ En este ayuntamiento se propuso como esta ciudad estaba muy sucia y todas las calles della hechas muladares de suerte que no se podía pasar por ellas y que Alonso Dávila persona que se había encargado de la limpieza della por salario que esta ciudad le da no acudía hacer lo que está obligado. 25 February 1602 in Consejo de Lima, *Libros de Cabildos*, 14:52.

⁵⁶ 11 January 1616, 2 January 1616, 9 January 1617, 24 November 1617, 15 January 1618, 2 March 1618, 17 September 1618, 4 January 1619, 28 January 1619, 14 March 1619, and 9 August 1619, in Consejo de Lima, *Libros de Cabildos*, 18:19, 205, 211, 347, 382, 426, 516, 582, 603, 624, 699-702.

corpses piled in public plazas.⁵⁷ But the taskforce did not meet the *cabildo*'s expectations. Allegedly, five members grossly neglected their duties.⁵⁸ During a late August meeting the *cabildo* blatantly criticized their colleagues "It is notorious that those sanitation inspectors are vagabonds, vice-ridden and distracted. And they do not clean the city nor issue citations."⁵⁹ The *cabildo* voted to fire the officials and take back the symbol of their political authority: the municipal staff of office.

Systemic labor shortages plagued both sides of the Atlantic such as colonial Quito and Seville. In Quito, "Cabildo members understood that the garbage and human waste fouling local streets provided a breeding ground for disease. In spite of that knowledge, the city was never able to organize systematic waste collection."⁶⁰ Seville's town council also struggled with a "never ending battle" between the cabildo and residents. Bans against littering and illegal dumping were met with indifference. One trash heap, nicknamed *monte de malbaratillos* [the juggler's mountain], sat for generations along the banks of the Guadalquivir River.⁶¹

The limitations of Lima's urban sanitation program persisted. Travelers in the desert capital complained of being "tormented" by flea and bug bites...whose "...[p]rodigious increase is partly owing to the dust of that dung, with which the streets are continually covered; and partly to the flatness of the roofs,

⁵⁷ 9 August 1619, Ibid., 700.

⁵⁸ 26 August 1619 in Consejo de Lima, *Libros de Cabildos*, 18:706.

⁵⁹ Era notorio los dichos almotacenes son vaga mundos, viciosos, y distraídos y no acuden a limpiar la ciudad ni hacer denunciaciones. 30 August 1619 in Ibid., 711.

⁶⁰ Suzanne Austin Alchon, "Disease, Population and Public Health in Eighteenth-Century Quito," in *Secret Judgements of God: Old World Diseases in Colonial Spanish America*, ed. Noble David Cook, et al. (Norman: University of Oklahoma Press, 1992), 176.

⁶¹ Kristy Bowers, *Plague and Public Health*, 24.

where the same dust, wafted thither by the winds, produce these troublesome insects...”⁶² Compounding the problem of dusty roads and dung were the large variety of animals living in and passing through the city on a daily basis.

5.4 Animals

Europeans introduced several new domestic species to the New World that dramatically changed local ecosystems. Chickens, mules, horses, cattle, pigs and sheep accompanied Spanish conquistadors and became an integral part of colonial society. Mules became popular beasts of burden that transported goods and materials. Hordes of cows, sheep, and pigs grazed across the valley with catastrophic consequences. Where beasts grazed freely, they trampled, ate, and rooted indigenous crops. In sixteenth-century Mexico, Elinor Melville describes a process of rapid environmental conquest, where sheep outnumbered men and stripped the desert of its natural vegetation.⁶³

Lima’s harbor city of Callao was the major port for South America. And consequently, animals, food, slaves, sailors and immigrants passed through Callao before entering the kingdom of Peru or as a stopover in route to other areas such as Mexico, Panama, Chile, and the Philippines. In Lima, the Crown wanted to avoid the type of ecological destruction experienced in Mexico, and it ordered the *cabildo* to

⁶² Antonio de Ulloa and Jorge Juan, *A Voyage to South America* 2:67.

⁶³ Elinor G.L. Melville, *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (Cambridge: Cambridge University Press, 1994), 39.

protect the Indians' best interests by fencing in wild bands of goats that "roamed the valley causing great harm and destruction" to the Indians' lands.⁶⁴

Lima's town councilmen invoked health, air, and bodies when discussing livestock policies, and they used this language to enact sweeping changes to the urban environment. In Lima's early years, it was common to find beasts living in the traza, but their presence added to the city's noxious airs. Their bodies and environments reeked of manure, dirt, and dust. An early report stated that the combination of dusty air and livestock within city limits created unbearable living conditions.⁶⁵ Chickens, sheep, ducks and cows wandered the streets liberally, and their presence fed into elite fears that close contact with animals caused illness.⁶⁶ In close quarters, elites could not ignore the smell, noise and mess of the beast next-door, and the tension between animals, urban spaces, and the *cabildo* quickly reached a turning point. A few years after the foundation, councilmen ordered the removal of all livestock from the city center, and gave residents a quick turnaround time of ten days.⁶⁷ Separating animals from human homes served the common good by reducing miasmas within the city proper.

Discussions of public health and animal policies carried over into transportation and food regulations. Cattle herders driving through the city caused a

⁶⁴ Por ser el ganado dañino convenía que estos caballeros tratasen de dar orden cerca del pasto de las cabras entre las chacras y pastos de los indios porque los indios e naturales no tienen capacidad ni posibilidad para quejarse del daño que les hacen los Cristianos. AHMP Consejo de Lima, *Libros de Cabildos*, 3:f. 26r.

⁶⁵ Frank Moya Pons, *Lima: El Cabildo y la vida local en el siglo XVI (1534-1553)* (Santo Domingo: República Dominicana, 1985), 15.

⁶⁶ Heather, McCrea, "Pest to Vector," in *Centering Animals in Latin American History*, ed. Martha Few, et al. (Durham: Duke University Press, 2013), 169.

⁶⁷ Consejo de Lima, *Libros de Cabildos*, 4:189.

great deal of damage along the way. Lumbering herds destroyed roads and crushed *acequias* under their weight. Broken *acequias* flooded roads and holes made streets impassible. A description of one particularly bad street indicates “The road that runs from this city to Domingo de la Presa’s [land] is ruined and nearly gone and it has many rough patches in need of repair just to make it walkable. And the *cabildo* is aware that the carts coming into the city have destroyed the road.”⁶⁸ The destructive nature of wagons and beasts of burden to city streets compelled councilmen to change the urban landscape by paving streets with adobe and restricting the movement of cattle to specific thoroughfares.⁶⁹

Municipal leaders also banned animals from mills because of their role in food production. Just as the council decried animal filth within the city it worried that dust and waste might mix with grains.⁷⁰ The town council decreed in 1551:

[C]onsidering the potential harm that the millers and mills are capable of, if birds, ducks, and pigs are there...men with livestock should send their wheat to the mill, because otherwise their chickens, ducks and pigs will break open the grain sacks and eat the wheat. Therefore no miller can have ducks, chickens, or pigs in his mill or on the premises.⁷¹

⁶⁸ 29 April 1555 Consejo de Lima, *Libros de Cabildos*, 5:279. “...El camino que va desta ciudad a lo de Domingo de la presa está muy estragado y perdido y tiene muchos pasos malos que tiene necesidad de repara para que se puede caminar y porque son informados que el dicho camino han estragado las carretas que traen por el dicho camino y han traído...”

⁶⁹ Ibid.

⁷⁰ 13 July 1551 in Consejo de Lima, *Libros de Cabildos*, 3:415 and BRAH, Mata Linares, 21:ff. 365r.-368v. “Ordenanzas sobre el pan cocido y que en los molinos no haya aves, patos, ni puercos hechas por la real audiencia de esta ciudad de los reyes,” (14 agosto 1551).

⁷¹ Que considerando el daño que de tener los molineros y sus molinos y sus cerquitos aves y patos y puercos ha venido y vendrá sino se remedia a los vecinos y a otras personas que envían a moler a los dichos molinos su trigo porque las tales gallinas y patos y puercos les rompen los costales y comen el trigo para proveer y remediar en esto ordenaron y mandaron que de aquí adelante ningún molinero sea osado de tener ni tenga en los tales molinos ni en su cerquito a distrito gallinas ni puercos. 23 October 1551 Consejo de Lima, *Libros de Cabildos*, 4:429.

Town councilmen and city residents viewed animals as incubators of disease. By regulating where animals lived and moved through the city, councilmen controlled the concentration of animal miasmas. Eliminating live animals from the traza assuaged concerns that they might otherwise trigger an epidemic. Public spaces were easier to keep clean, especially recreational areas designed for pedestrians to pass time walking and relaxing.

5.5 Green Spaces

Despite descriptions of the Rímac River valley as a land flush with forests, the rapid consumption of timber quickly transformed the landscape. When the early residents of Spanish Lima first arrived they looked upon an area flush with trees and they imagined how they would turn those forests into homes, bridges, ships, and firewood.⁷² The alder's soft and porous wood was useful in construction, especially boats, because it did not rot underwater. And like legumes, alder trees enrich the earth around them, replenishing the soil and rendering it fertile for new crops and seedlings.⁷³ In the rush to build new homes, businesses, and industries, early settlers stripped the valley's trees at an alarming rate.

⁷² Before the Spanish arrived in Peru, local indigenous communities were familiar with re-shaping the landscape for production, beautification and conservation. The Rímac River valley contained scattered forests and alder and willows lined the riverbank. As it happens, the Incas introduced alder to the area in their own landscaping designs. Pollen studies and primary accounts indicate that the Incas practiced agroforestry and planted trees "...To surround temples, to provide amenities in towns, to shade roads and canals and protect soil from erosion." Indigenous peoples intentionally planted alder for ecological and personal benefit, alder stabilized landscapes and created natural barriers from the sun. J. Donald Hughes, *An Environmental History of the World: Humankind's Changing Role in the Community of Life* (New York: Routledge, 2001), 108.

⁷³ Both willow and alder were used in the production of charcoal and gunpowder. Diana Wells, *Lives of the Trees: An Uncommon History* (New York: Workman Publishing, 2010), 15.

Lima's town council immediately felt the consequences of deforestation and they feared for the loss of local forests. The *cabildo* responded with two types of programs promoting green spaces: the creation of recreational zones and forest conservation. Town councilmen repurposed urban spaces into parks that drew in pedestrians with plants, shade and fountains. They also implemented felling guidelines and replantation initiatives. These measures demonstrate that the municipality valued Lima's woods and understood the healing benefits of trees and plants as a counter to city life.

Municipal green spaces were found throughout the Spanish Empire. In Seville, the district sanitation representative of the city's north end successfully transformed a lagoon of stagnant water and trash into a tree-lined park known as the Alameda de Hércules.⁷⁴ The airy park doubled as a market that permitted shoppers to browse without enduring suffocating odors.⁷⁵ Mexico City's *alameda* carved out a space for residents of all social classes. Sundays were a popular day to take a stroll, meet friends, gossip and pass time. *Alamedas* provided accessible green spaces to the public.⁷⁶ They shielded bodies not just from miasmas, but also from the sun's powerful rays. Consequently, many cities built recreational spaces into their urban design, the fruits of which still survive in Spain and Latin America today.

Tree conservation was an important part of preserving a landscape's health and utility. Spanish officials valued trees and exercised restraint in clear-cutting

⁷⁴ Kristy Bowers, *Plague and Public Health*, 25.

⁷⁵ Donatella Calabi, *The Market and the City: Square, Street, and Architecture in Early Modern Europe* (Aldershot: Ashgate Publishing Limited, 2004), 146.

⁷⁶ Sharon Bailey Glasco, *Constructing Mexico City*, 33.

forests. Royal attitudes towards trees indicate the Crown's interest in preserving this valuable resource. In 1572, King Philip II proclaimed:

One thing that I desire to see addressed is the issue of the conservation of forests and their expansion. That is very necessary. I believe that they are disappearing. I fear that those who come after us will have much to lament as we leave them with wasted forests and resources. I pray to God that we do not see that in our days.⁷⁷

Within the empire, forestry management was a highly localized activity that usually fell under the management of colonial governments. Although not explicitly ordered to do so, royal officials and municipalities took steps to preserve forests and landscapes. In the mining districts of colonial Mexico, timber provided the primary source of fuel and therefore drove the rapid deforestation and near depletion of local forests. In response, Mexico's viceroy, Antonio de Mendoza, limited felling near the Taxco Mine area in 1542.⁷⁸ The demand for fuel never ceased, but Spanish officials wished to mediate the rate of destruction.

Although Lima's officials recognized that city's needs for fuel and construction, they believed that certain criteria should guide felling. These measures protected certain trees and created a buffer zone around the immediate city. Fruit trees, in particular, were spared the axe. In one of the earliest decrees against felling, town councilmen forbade residents from cutting down fruit trees for their homes or sending a third party to do it because harvesting them "...is of great harm to the city

⁷⁷ It is also important to note that royal policies against deforestation also protected military interests at this time. The Crown needed large supplies of timber for its naval fleets. Translated in John T. Wing, 138.

⁷⁸ Daviken Studnicki-Gizbert and David Schecter, "The Environmental Dynamics of a Colonial Fuel-Rush: Silver Mining and Deforestation in New Spain, 1522 to 1810," in *Environmental History* 15 (2010): 94-119.

and its neighboring Indians. So much so that from here on out no one, resident, denizen, nor inhabitant of this city may cut down any fruit trees.”⁷⁹ This made sense given their value as a source of food and the availability of other species in the valley. Just one month after Lima’s inauguration, the municipal government clearly stated its dominion over the valley’s woods and trees by forbidding anyone from cutting down trees without a license.⁸⁰ Licenses and steep fines were the means by which the *cabildo* reined in clear-cutting across the valley.

While chopping fruit trees was illegal for everyone, punishments, as for many crimes, varied according to the ethnic or racial origin of the criminal. Rachel O’Toole describes how this affected African slaves in northern Peru who were penalized with chains, shackles and stocks, a physical reminder of their low social status.⁸¹ In Lima, Spaniards caught felling fruit trees were ordered to pay a fine. By contrast, Indians and African slaves faced physical pain and humiliation: they were tied to a tree and whipped fifty times.⁸²

Discriminatory punishments appeared in charcoal and fuel policies. The *cabildo* specifically forbade residents from sending slaves to collect firewood in the

⁷⁹ En este día los dichos señores dijeron que por que como esta ciudad se fundó ahora nuevamente y para hacer sus casas algunas personas cortan arboles de fruta o los mandan cortar a sus negros e indios y yanaconas lo cual es en perjuicio de la ciudad y de los indios comarcanos a ella por tanto e porque lo suso dicho de aquí adelante no se haga ordenaron y mandaron que ninguna persona vecino ni morador estante ni habitante en esta dicha ciudad pueda cortar ni corte ningún árbol que sea de fruta. See entry for 30 January 1535 in Concejo de Lima, *Libros de Cabildos*, 1:17.

⁸⁰ 6 February 1535 in *Ibid.*, 18.

⁸¹ Rachel Sarah O’Toole, *Bound Lives: Africans, Indians and the making of race in colonial Peru* (Pittsburgh: University of Pittsburgh Press, 2012), 146.

⁸² Consejo de Lima, *Libros de Cabildos*, 1:17.

hinterlands.⁸³ The municipal government wished to protect the city's immediate environs, but they knew they could not forbid residents from cutting down trees entirely. Citizens needed timber for fuel and infrastructure. In the case of charcoal and firewood, the *cabildo* banned locals from collecting timber for this purpose within a two-league radius of the city. The ordinance aimed to restrict consumption by specific groups of artisans such as bakers and blacksmiths who relied on charcoal or large logs to produce blazing hot flames. Bakers needed thick wood that burned slowly, ideal for producing a constant heat for baking bread. And blacksmiths needed charcoal to raise a fire's temperature high enough to manipulate iron and other metals.

The tension between policy and practice pitted artisans against the *cabildo*. Craftsmen needed carbon to support their livelihoods, but the *cabildo* crafted a web of policies protecting Lima's immediate vicinity. When residents ignored this legislation, the *cabildo* responded with increased fines and punishments. One such measure declared "...[l]et it be known that for each foot of tree that is chopped down the penalty will increase, multiplied by each foot of the tree's trunk...and the same is true for fruit trees whether a native or Spanish species."⁸⁴ The demand for fuel drove residents to travel farther and farther from the city in search of trees. Not surprisingly, Lima's indigenous neighbors witnessed indiscriminate felling on their own lands.⁸⁵

⁸³ 6 November 1535 and 15 December 1536 Concejo de Lima, *Libros de Cabildos*, 1: 18, 51-52, 116.

⁸⁴ Que por cada pie de árbol que cortare caiga y incurra en la dicha pena multiplicándose tantos cuantos pies de árboles cortare. 28 September 1554 in Concejo de Lima, *Libros de Cabildos*, 5:202.

⁸⁵ 7 February 1535 in Consejo de Lima, *Libros de Cabildos*, 1:18.

The cabildo amended its prohibitions to include the woods pertaining to the indigenous communities of Pachacamac, Manchay and Cieneguilla.⁸⁶

Royal and municipal officials implemented a different approach that tied citizenship to landscape restoration.⁸⁷ Just as the pre-Columbian peoples had done before the Spanish invasion of Peru, municipal leaders developed replantation programs that forced residents to help restore the ecological balance. Acknowledging that the demand for wood to build homes had “destroyed” Lima’s forests, the *cabildo*, ordered *vecinos* to help replace what they had taken. The first measure called for *vecinos* to plant five hundred trees in the valley within a six-month period. Non-compliant men were fined ten gold pesos.⁸⁸ Following on the heels of this program, the *cabildo* asked homeowners to plant 300 willow trees and other varieties that were “beneficial for wood and fruit.”⁸⁹ A royal mandate, signed by Charles V, boosted this movement, instructing all of Lima’s *vecinos* and *caciques* to plant 1,000 feet of trees in the *chácaras* [agricultural fields] surrounding the city.⁹⁰ Replantation programs indicate how the municipal government obliged citizens to compensate for the destruction of so many forests.

⁸⁶ 10 July 1617 in Consejo de Lima, *Libros de Cabildos*, 17:291.

⁸⁷ Reforestation efforts were also underway in England in the late sixteenth century. See Graham Roebuck, “Sassafras,” in *The Mysterious and the Foreign in Early Modern England*, eds., Helen Ostovich, Mary V. Silcox, and Graham Roebuck, (Cranbury: Rosemont Publishing, 2008), 178.

⁸⁸ 3 April 1535 in Consejo de Lima, *Libros de Cabildos*, 1:22.

⁸⁹ Que les parece que son provechosos. This document names willow trees. 6 November 1535 in *Ibid.*, 57.

⁹⁰ “Ordinances for the good government of the city,” 1551 in Consejo de Lima, *Libros de Cabildos*, 1:351-52.

Regeneration efforts included plans to create green spaces within the city, areas dedicated to leisure, diversion, and health. Trees played an important role in the creation of these areas because they demarcated recreational areas and provided shade to pedestrians. Lima's viceroy ordered the creation of an *alameda*, or the planting of trees in a park outside the Franciscan monastery in San Lázaro. The *alameda* spanned nearly two hundred feet near the river, contained several species of trees, three stone paths, and three stone fountains.⁹¹ The viceroy explained "...[i]n this city, this form of public recreation is more important and necessary than others for the diversion of its inhabitants."⁹² He went on to suggest that public recreation kept residents from partaking in unwholesome activities.⁹³ *Alamedas* served urban areas as a retreat both from the mundane and the ills of city life.

Through built landscapes, the *cabildo* reinforced nature's importance in residents' lives. Trees blocked the sun's harmful rays and "...[p]revent the harmful effects of the sun on one's health..."⁹⁴ The viceroy continued to keep an eye on the area, and on at least one occasion sent in a cleanup crew to remove rubbish and reinforce the trees and plants located there.⁹⁵ The tree-lined paths of Lima's *alameda*

⁹¹ Cobo, *Fundación de Lima*, 64.

⁹² En esta ciudad era esta recreación común más importante y necesaria que en otras por divertir a los habitantes en ella, AGI, Lima, 275 f. 469r. "Carta del virrey que hizo plantar una alameda a recreación común de que tenía Lima mucha necesidad," (11 April 1611).

⁹³ Ibid.

⁹⁴ Y por cuanto los soles desta ciudad son muy grandes y dañosos a la salud y que los señores virreyes van a muchas fiestas ordinariamente. 9 May 1625 in Consejo de Lima, *Libros de Cabildos*, 20:99.

⁹⁵ 27 February 1614 in Consejo de Lima, *Libros de Cabildos*, 17:527.

provided much-needed haven. Green spaces served urban sanitation goals by providing airy, refreshing locations that were the opposite of pernicious urban spaces.

5.6 Conclusion

Citizenship in the City of Kings subjected residents to municipal sanitation policies. But these regulations failed to generate the types of hygiene reform needed to keep the city clean. Yet, however much the *cabildo* wished to force citizens to take personal responsibility for their own trash and sewage, residents consistently ignored calls to participate in cleanups and use designated trash heaps. The city itself became a noxious environment producing and accumulating enough waste to threaten not only human health, but also the integrity of physical structures comprising the cityscape. Councilmen had no choice but to turn to other means of providing sanitation and public hygiene: coerced labor.

Coerced labor epitomizes the municipal government's efforts to exert social control over its citizens through environmental policies. The labor crews forced to scrape up human excrement and trash were almost entirely composed of slaves and Indians. Officials placed themselves at the helm of these crews and oversaw their toil, socially and physically subjecting blacks and Indians to direct exposure with the dark underbelly of the urban environment. Cleanup crews toiled for hours on end in constant contact with those materials that made the city an unhealthy environment.

Social control attempts emerge elsewhere: in the harsher, physical punishments ascribed to blacks and Indians for cutting down trees and in the subtle observation that recreational spaces kept people out of trouble. Trees represented the

municipal government's larger struggle to restrict the movements and actions of its non-white population, and keep them from either undermining the vitality of Lima's forests or engaging in nefarious activities owing to a lack of suitable alternatives. From the view of councilmen, defining what it meant to belong in colonial Lima meant mediating how individuals interacted with the natural world and determining to what extent different groups of people could contribute to the urban sanitation program.

CHAPTER 6

POISON AND POTIONS: APOTHECARIES AND PHARMACEUTICAL PRACTICE

6.1 Introduction

Mercuric chloride, dispensed as medicine, poisoned several women of European and African descent in July 1551. Mercury was commonly prescribed to women for gender-specific problems including venereal diseases such as syphilis, warts and gonorrhea.¹ In fact, in certain areas of Europe, it was even popular to purchase “anti-venereal underpants,” coated with mercury ointment.² Pharmacists offered localized treatments, a rub made of mercury and lard, but they could also prepare a watery potion for more extreme cases.³ Physicians believed that mercury, because it was heavy, sank into the body and drew out poisons by expelling them violently.⁴ Mercuric chloride triggered violent side effects that could last for four to

¹ Kelly McGuire, “‘Corruptible Bodies’: Suicide and the Aesthetics of the English Maladay in John Shebbeare’s *Lydia*; or, *Filial Piety*,” in *The English Malady: Enabling and Disabling Fictions*, ed., Glen Colburn (New Castle: Cambridge Scholars Publishing, 2004), 112.; Thomas Dancer, *The Medical Assistant; or Jamaica Practice of Physic: Designed Chiefly for the Use of Families and Plantations* (Kingston: Alexander Aikman, 1801), 214, 215; Mary Lindemann, *Medicine and Society*, 70.

² John Parascandola, *Sex, Sin and Science: A History of Syphilis in America* (Westport: Greenwood Publishing Group, 2008), 16.

³ Kevin Patrick Siena, *Venereal Disease, Hospitals and the Urban Poor; London’s ‘Foul Wards,’ 1600-1800* (Rochester: University of Rochester Press, 2004), 17.

⁴ John Hunter, *A Treatise on the Venereal Disease* (London: 1808), 365.

six weeks.⁵ Its burning metallic taste was only the beginning. After consuming it, the patient felt thirsty and began to salivate uncontrollably. Her body sweated profusely, her throat ached from dehydration, and shortly thereafter, the abdomen cramped and bloody diarrhea ensued.⁶

The problem was not only that women were being poisoned, but also that they were doing so clandestinely. Venereal diseases carried a tremendous social stigma that could significantly damage a person's reputation. This may shed light on why some women avoided seeing a physician and instead went directly to a pharmacist. The *cabildo* called on several witnesses to confirm the rumors. Antón Díaz, Lope de Valdes, Antonio de Rojas, and Diego Guitérrez, the *cabildo*'s own scribe, testified that many women, including slaves, had been poisoned after taking mercuric chloride.⁷ The scribe recorded that the corrosive sublimate and other deadly items were sold liberally by pharmacists and without a prescription.⁸ Shocked by the scandal, the municipal government enacted a new policy forbidding the sale of sublimate, red sulphate of arsenic, or "any other death-dealing thing," without a prescription.⁹

⁵ Dorothy A. Mays, *Women in Early America: Struggle Survival and Freedom in a New World* (Santa Barbara: ABC-CLIO, 2004), 171.

⁶ According to early-modern humoral theory, vomiting rid the body of excess yellow bile and evacuations- black bile.

⁷ Concejo de Lima, *Libros de Cabildos*, 3:416.

⁸ Ibid.

⁹ Under Spanish law, anyone over the age of 14 was considered a legal adult, and therefore competent enough to take charge of his/her own medical care. John Lanning, *The Royal Protomedicato: The Regulation of the Medical Professions in the Spanish Empire* (Durham: Duke University Press, 1985), 51 and Scott, S.P. Robert Ignatius Burns, and Alfonso X, *Las Siete Partidas*, v.1 (Philadelphia: University of Pennsylvania Press, 2001), 632.

The new policy allowed the town council to interpose itself *into* private lives and pharmacy practices. Its social ramifications meant the *cabildo* could monitor and know who these women were. A public crier dispatched to the main plaza informed citizens of an immediate change in pharmacy practices. Now all women needed a physician's exam in order to purchase potentially lethal purgatives. And even if a customer wished to purchase mercuric chloride clandestinely, the duration and enormity its effects made it extremely difficult to hide. As Dorothy Mays found in early America, family members would immediately recognize the symptoms of mercury cures: bad breath, diarrhea, damaged teeth and gums, and a bed-ridden patient.¹⁰

Technically, pharmacy activities fell outside the municipal government's jurisdiction. Spain had a well-established medical hierarchy that included the office of *protomedicato* to regulate medical professions in the colonies. Furthermore, in his absence, the duties carried out by the *protomedicato* deferred to royal bureaucrats such as the viceroy and high courts. Nevertheless, it appears that the institution of *protomedicato* was rather weak in colonial Lima, and therefore the *cabildo* acted in its place. The *cabildo* intervened in pharmacy practices to protect the common good.

6.2 The Role of the *Protomedicato*

The Spanish Crown depended on *protomedicatos* to regulate medical practice at the far corners of its empire. When a *protomedicato* arrived in Latin American city, he brought with him the training and authority to monitor and adjudicate medical

¹⁰ Dorothy Mays, *Women in Early America*, 172.

practice. Perhaps the three most important services he provided comprised the ability to resolve medical disputes, approve medical licenses and inspect pharmacies.¹¹

Spain's medical bureaucracy centered around the *protomedicato*, a position that lasted from the late fifteenth century to the early nineteenth century. In 1477, the newly unified Crowns of Aragon and Castile created the *protomedicato*'s office. The qualifications for the office were strenuous. Successful candidates had to be male, a graduate of a university medical program, and Spanish. By law, every medical professional in Latin America had to obtain a license from the *protomedicato*, a process that required physicians, surgeons and barbers to appear before him for examination.¹² Only midwives and aromatic drug dealers escaped his jurisdiction.¹³

The *protomedicato* was central to the Crown's vision of a standardized medical practice throughout its territories. In 1567, Philip II declared, "Wishing that our vassals may enjoy a long life, and maintain perfect health...we have decided to send at least one, or sometimes many *protomedicatos* to the Indies and its adjacent islands..."¹⁴ As *protomedicatos* were essential to the health and wellness of its vassals, they were distributed across the Empire. The instructions given to Francisco Pizarro by Queen Isabel authorized him to explore and conquer Peru, taking with him a *boticario* [pharmacist] paid for out of the royal coffers. The purpose of the

¹¹ Gunter B. Risse, "Medicine in New Spain," in *Medicine in the New World*, Ronald L. Numbers, ed. (Knoxville: The University of Tennessee Press, 1987), 15.

¹² Carlos II, *Recopilación de leyes: de los reinos de las indias*, (Valladolid: MAXTOR, 2013), 141.

¹³ King Philip II formalized these regulations in 1567. Ibid.

¹⁴ Deseando que nuestros vasallos gocen larga vida, y se conservan en perfecta salud: ...hemos resuelto de enviar algunas veces uno, o muchos protomédicos generales a las Provincias de las Indias. Carlos II, *Recopilación de leyes*, 139.

pharmacist was to provide medical care to Spanish conquistadors accompanying Pizarro in the discovery, conquest, and settlement of Peru.¹⁵ Thus, well before the construction of Lima's first hospitals, a pharmacist was already present in the City of Kings. Lima's first *protomedicato*, Hernando Sepúlveda, arrived two years later.

Despite the Crown's goal of distributing royal medical officers across its empire, supplying them proved challenging. First, as the number of Latin American cities increased, so too did the need for university-trained, licensed *protomedicatos*. Demand surpassed the number of men that Spain could logistically supply. Second, the Crown reserved the right to install men in this office, even in the New World, a fact that slowed the appointment of officials. This further compounded shortages in medical staff, because without someone to confirm licenses, technically no medical professional could practice medicine.

The other important duty of the *protomedicato*, pharmacy inspections, sent these officials into shops to examine and critique their operation. Apothecary reviews followed a specific set of well-established guidelines that included swearing an oath of honesty, taking a scribe with him, assessing the practitioner's license and title, and declining any gifts during his review.¹⁶ Standard operating procedures called for the pharmacist to swear an oath of honesty and confirm that he had not simply borrowed medicines in order to appear more adeptly stocked.

¹⁵ Consejo de Lima, *Libros de Cabildos*, ed., Saldamando, 1:137.

¹⁶ Maria Soledad Campos Diez, *El Real Tribunal del protomediacto castellano siglos XIV-XIX* (Cuenca: La Universidad de Castilla- La Mancha, 1999), 122.

Next, the *protomedicato* checked the medicines' taste, color, and smell to confirm freshness.¹⁷ Most early-modern pharmacists believed that medicines, especially plants, contained an internal virtue that disappeared with time. This is another example in which early modern medical theories were in some respect correct, but not for the reasons they thought; today there are expiration dates on virtually all pharmacy drugs sold in the United States. In colonial Lima, old or mislabeled products were confiscated and publicly burned.¹⁸ The *protomedicato* inspected each item, noting which ones were absent or in poor condition, which ones were priced too high, and the worst offense, which ones were spoiled or adulterated, sold with false labels under false pretenses.¹⁹ After the visit, the *protomedicato* informed the pharmacist of any violations that required attention and he drew up an official report.

Protomedicatos moved between cities and neighboring towns and extended Spain's medical bureaucracy. The Crown depended on them to uphold medical standards in the mother country and its colonies. However, owing to systemic problems with staffing, intense corporeal reactions to drugs, and the occasional participation of blacks and Indians as store assistants, municipal governments buttressed medical regulation.

¹⁷ Susan de Vos, "The Art of Pharmacy in Seventeenth and Eighteenth-Century Mexico." (Ph.D. diss, University of California Berkeley, 2001), 42.

¹⁸ Ibid.

¹⁹ Ibid., 43.

6.3 The Nature of Pharmaceutical Practice

In colonial Lima, a very large number of diseases could ravage the body, including intestinal worms, rashes, parasites, fevers, ulcers, boils, and warts. People who could afford medical care were eager to seek a cure, even if those treatments were painful and experimental. Pharmacists and patients pursued violent reactions because this meant that the medicine was working, and their bodies were purging bad humors.²⁰ It was so potent that it could cause a person's hair and teeth to fall out. Another part of its appeal was its mysterious and strange properties; it was a silver-hued liquid and sensitive to changes in temperature.²¹ Another drug, red arsenic sulfide, was a common chemical among tanners, painters and pharmacists.²² Like mercury, it was used as both a medicine and a poison.²³ It was cheap and abundant, and consequently favored in the curricula of university medical faculties and pharmacies.²⁴ It came in several forms, but Lima's pharmacists typically carried yellow or red arsenic, which unlike the white variety (trioxide) were toxic, but not lethal.²⁵

²⁰ Claudia Stein, *Negotiating the Pox in Early Modern Germany*, 60.

²¹ John Parascandola, "From Mercury to Miracle Drugs: Syphilis over the Centuries," *Pharmacy in History* 51:1 (2009): 14.

²² Karen Trentelman, "Colorants and Artists' Palettes," in *Manuscript Cultures of Colonial Mexico and Peru: New Questions and Approaches* (Los Angeles: Getty Research Institute, 2014), 123, 130.

²³ This mineral was used as a cosmetic by the Acadians and Pliny describes its medical uses. George Rapp, *Archaeomineralogy* (Berlin: Springer, 2009), 216.

²⁴ Randall Martin, *Women, Murder and Equity in Early Modern England* (New York: Routledge, 2008), 144.

²⁵ Kari Konkola, "More than a Coincidence: The Arrival of Arsenic and the Disappearance of the Plague in Early Modern Europe," *Journal of the History of Medicine and Allied Sciences* 47 (1992): 186-209.

Medicines unsettled the body, the result of which could be agonizing and even deadly. As David Howard found in Mexico City's Royal Indian Hospital, most of the medicines kept in the pharmacy "...were universally recognized diuretics, laxatives, carminatives, expectorants, emetics, sudorifics, or emmenagogues designed to promote elimination of bodily poisons and the restoration of fluid and organ balance."²⁶ Depending on the dosage, medicines bordered on a fine, if perceptible line between prescription and poison.

A shopping list taken from Hospital Santa Ana's pharmacy sheds light on some of the specific medicines in use. Although this inventory in no way reflects the scope of all the medicines available at Santa Ana, it does provide a small glimpse of what kinds of ingredients pharmacists were using. Roses, for example, were one of the most valued plants, favored for their use in distilled waters, syrups and baking. Roses possessed many "virtues" or benefits. One seventeenth-century account claimed:

The distilled water of roses is good for strengthening the heart and refreshing the spirits and likewise for all things that require a gentle cooling... The juice of the roses especially of Damask, doth move to the stoole and maketh the belly soluble when as either there is no need of other stronger purgation, or that it is not fit and expedient to use it.²⁷

Santa Ana's pharmacy also purchased large quantities of sugar, which made sense given the ingredient's versatility. Apothecaries reduced sugar to syrups or blended it with other ingredients. Up until the nineteenth century, apothecaries believed sugar possessed an array of attributes including the ability to treat colds, fevers,

²⁶ David Howard, *The Royal Indian Hospital of Mexico City* (Tempe: Arizona State University, 1980), 4.

²⁷ John Gerard, *The Herbal or General History of Plants: The Complete 1633 edition as revised and enlarged by Thomas Johnson* (New York: Dover Publications, Inc., 1975), 1263.

inflammation, pain, tired eyes and the power to stop purging and counteract an excess of acid or bile in the body.²⁸ Owing to its diverse applications, pharmacists could generate most of their income from one ingredient.²⁹

²⁸ Mary Lindermann, *Medicine and Society*, 244. Hannah Newton, *The Sick Child in Early Modern England* (Oxford: Oxford University Press, 2012), 69; *Herbs Cultivation and Medicinal Uses* (National Institute of Industrial Research, 2005), 520-524.

²⁹ Hermann Peters, *Pictorial History of ancient pharmacy: With Sketches of Early Medical Practice* (Chicago: Brown, Pettibone & Co., 2009), 38.

TABLE 6.1

MEDICAL SUPPLIES PURCHASED FOR SANTA ANA'S PHARMACY,
SEPTEMBER 1611-AUGUST 1612³⁰

Item	Quantity
crude zinc oxide	1 pound
sugar	118.5 pounds
bottles for water	6
carbon	12 pounds
<i>pellas de retiro</i>	1 pitcher
lard	64 pounds
sieve	2
balsam	1 bottle
earthen jug	1
roses	394 pounds
white lead	12.5 pounds
mercury oxide	1 pound
mercury	6 pounds
cassia fistula	2 <i>quintals</i>
soy beans	.5 <i>fanega</i>
granadas	
rhubarb	1 pound
carbon	1 load
oil	1 bottle

³⁰ IRA, Maldonado, A-III-227

The art of making medicines took many forms. Medicines came in two primary categories: simples and compounds. Simples, as the name suggests, required very little manipulation to extract medical value. In other words, the substance already possessed a strong virtue in and of itself that could be brought out by cooking, grinding, or mixing it with liquids.³¹ Compounds, on the other hand, worked more effectively when combined with other materials. Compounds came in several forms including infusions, triturations, electuaries, oils, ointments, poultices, powders, and pulps. If we assume that Lima's pharmacies were comparable to those in contemporary Mexico City, then they were equipped with the tools and resources needed to prepare a range of prescriptions ranging from the most basic to the very complex. Among the shop's utensils were kettles, strainers, filters, pots, frying pans, as well as an oven and stove.³² Table 5.2 below provides a detailed overview of the preparations required for different medicines.

Pharmaceutical practice required incredible skill and a broad knowledge of plants, animals, oils, and minerals, and a willingness to learn about new medicines on the ground. Almost every organic and inorganic material contained some medical virtue, and Lima's pharmacies were well stocked with both Old World and New World remedies.

³¹ Susan de Vos, "The Art of Pharmacy," 130.

³² *Ibid.*, 129.

TABLE 6.2

SIXTEENTH- AND SEVENTEENTH-CENTURY MEDICINAL RECIPES³³

Type	Preparation
Infusion	Heat substances in a liquid; dissolve to draw out superficial virtues.
Trituration	A liquid made by grinding, mashing, or pulverizing substances into powders, usually with a mortar and pestle and mixing with wine or water.
Electuary	Make a powder, mix with sugar and water and cook until powder has dissolved.
Oil	Press and mix seeds, fruits, nuts or berries into paste between two pieces of cloth, heat, and press again between cloths and collect oils (may be repeated twice).
Ointment	Mix powders of simples with gum, resin, wax, or vegetable or animal fat, applied topically.
Poultice	Heat <i>cocimientos</i> or powders with oil, gum, resin, or wax until most of the moisture has evaporated, let cool, mold into a small cake, wrap in cloth or paper, place on affected area.
Powder	Grind substances into very small parts.
Preserve	Can be liquid or solid, used most commonly for preserving virtues of flowers, mash flowers to consistency of pulp, then mix with an equal quantity of sugar and 5 or 6 ounces of water and cook until thickened.
Pulp	Solid preparation used to extract soft and juicy parts of fruits and preserve their virtues. Cook fruit in water until skin has softened, grind in mortar, pound into pate, mash paste against sieve, and pulp will emerge. Then heat pulp until all moisture evaporates and material is solid. Add sugar to preserve it, let cool, cut into small pieces and store in wooden jars.
Syrup	A liquid preserve, using sugars to preserve virtues, mix simples with sugar or honey along with a beaten egg. Mash up medicine, boil in water for several hours, strain, repeat twice, take resulting infusion and cook it with twice the amount of sugar until thickened.

³³ Ibid., 127-131.

Bills of sale reveal what medicines pharmacies dispensed and in some cases, their intended use. These transactions produced a documentary trail as pharmacists recorded the sales by noting the item, price, quantity, and occasionally instructions. Pharmacists could then come back to this paper trail when patients or their heirs failed to settle the account. Below are several cases involving pharmacists and defunct physicians and patients. All of these suits went before Lima's archbishop because the recipient worked in Lima's cathedral.

In 1592, Gerónimo Rodríguez sued physician Antón de Sanchez de Leon for 54 *pesos* and 4 *reales*. The bill listed medicines used by Sanchez to treat the cathedral's clergymen.³⁴ According to the suit, Rodríguez gave several items to the physician including *miel rosada* [rose water and honey syrup], *lamedor de culantrillo*, [a thick, sugar water with fern], wax tablets, powdered drugs, turpentine, water boiled with special medicines and plants, sandalwood ointment, oxidized zinc, a fern salve to rub on the chest, electuaries, butter, endive water, starflower water, and maidenhair fern.³⁵ Although we do not know what ailed the patients, some of the medicine prescribed, such as the maidenhair fern, could trigger multiple outcomes such as a vomiting (when ingested) or relieving chest congestion and pain (when inhaled).³⁶

³⁴ AAL, Testamentos, 1:6 s.f., "Gerónimo Rodríguez contra Antón Sanchez de Leon," (1594).

³⁵ Ibid., s.f.

³⁶ Barbara Griggs, *Green Pharmacy: The History and Evolution of Western Herbal Medicine* (New York: Viking Press, 1981), 102 and Wendy Perkins, *Midwifery and Medicine in Early Modern France: Louise Bourgeois* (Exeter: University of Exeter Press, 1996), 69.

In a different claim, pharmacist Antolín de Reinoso sued doctor Sanchez de San Juan. His itemized bill included sweet almonds, earthworm oil, rose oil, iris oil, sarsaparilla, powders, vinegars, absinthe oil, balsams, licorice, turpentine, clove, scorpion oil, chamomile oil, flaxseed, and other items.³⁷ Given the wide variety of medical virtues that these items contained, the doctor could have easily treated several people with them. For example, turpentine abetted gonorrhea and syphilis.³⁸ Pharmacists prepared turpentine in a variety of ways; one method involved cooking it until it made a non-sticky paste that could be taken directly, in the form of a pill or mixed with an astringent.³⁹ Another universal medicine, licorice, eased hacking coughs, aches, cataracts, and dropsy.⁴⁰ Flaxseed was ground, mixed with other herbs over a fire, and applied externally, sometimes covering the entire body in a poultice.⁴¹ Sasparilla, a popular new world medicine, cured swollen lymph glands.⁴²

Scrawled along Sanchez's receipt was an enema recipe. Enemas were a strategy employed by physicians and midwives. Lucinda McCray Beier notes that clinical purges were carefully monitored and deemed successful based on the severity

³⁷ AAL, Causas Civiles, 39:16 "Autos de la causa seguida entre Antolín de Reinosos, boticario y el albacea del doctor Sánchez de San Juan, canónigo de la catedral," (10 September 1631).

³⁸ Pedro Luís Aguilon, *Materia Médica de la farmacopea española*, (Madrid: Don Miguel de Burgos, 1845), 248.

³⁹ Cocida en agua hasta que adquiere consistencia para malasarla sin que se adhiera a las manos, la dan nombre de trementina cocida, que se administra en píldoras, ya sola, o mezclada con la resina de copaiba, u otras sustancias generalmente astringentes. Ibid., 249.

⁴⁰ Pedro Luís Aguilon, *Materia Médica de la farmacopea española*, 220.

⁴¹ Ibid., 183.

⁴² Pedro Cieza de León, *Crónica del Perú*, 150.

of the reaction, not whether or not the patient actually recovered.⁴³ Sanchez's enema instructions read: "Make an enema from 6 drachmas of decota carminative, 3 drachmas chamomile oil, 1.5 drachmas minoris, 1 drachma mil sispaniz, 5.5 grams salis."⁴⁴ Collectively, all of these ingredients contributed to a strong compound that mixed several ingredients known to affect the stomach and digestion. Carminatives eased stomach pains.⁴⁵ Chamomile flowers, native to Spain and Portugal, counteracted inflammation, spasms, and insomnia, and improved digestion.⁴⁶

Even suits against the deceased can be revealing, and this was the case for the physician don Juan de Zapata. Zapata must have been on his deathbed because he received multiple painkillers including poppy seed paste, black currants and sweet almonds. He also drank wormwood oil in an attempt to drive out intestinal worms.⁴⁷ Table 6.3 below lists what the pharmacist dispensed to don Juan Zapata and its known medical uses.

⁴³ Lucinda McCray Beier, "In Sickness and in Health: A Seventeenth-Century Family's Experience," in *Patients and Practitioners: Lay Perceptions of Medicine in Preindustrial Society*, ed. Roy Porter (Cambridge: Cambridge University Press, 1985), 119.

⁴⁴ AAL, Causas Civiles, 39:16, "Autos de la causa seguida entre Antolín Reinoso Boticario y el albacea del doctor Gaspar Sánchez de San Juan, canónigo de la catedral," (10 September 1631).

⁴⁵ Wendy Perkins, *Midwifery and Medicine*, 69.

⁴⁶ It is important to note that chamomile is an ambiguous term that can refer to as many as sixty distinct plants. Manuel Pardo de Santayna and Ramón Morales, "Chamomiles in Spain: The Dynamics of Plant Nomenclature," in *Ethnonotany in the New Europe: People, Health and Wild Plant Resources* (Berghahn Books, 2013), 232. After reviewing Reinoso's memorial, the only question before the archbishop's court was whether or not the pharmacist was right. Did doctor Sanchez take a long list of medicines and neglect to pay for them? In September 1610, the archbishop's court sent a third-party physician to visit the apothecary and review the store ledgers. The investigator, Jerónimo Andrés Rocha, reviewed the "bills of sales," and confirmed that the records appeared sound. Consequently, the court ruled against Sanchez in the amount of 180 pesos and 8 reales. AAL, Causas Civiles, 39:16 (10 September 1631).

⁴⁷ Ken Albala, *Food in Early Modern Europe*, 43.

TABLE 6.3

MEDICINES SOLD TO DON JUAN ZAPATA C. 1633⁴⁸

Item	Amount	Uses
Black currant pulp	10 3	Diuretic, painkiller, anti-inflammatory, anti-diarrhea
Cañafistula pupa	β 3	Laxative
Crude poison	2 reales	Purgative
Burned firewood	1/2 ounce	Wounds, swellings, throat infections, and racing heartbeat
Cotton flower	1 real	Cough, colds, and flu
Fern	1 ounce	Purgative
Syrup made from chicory and starflower	1 real	Chicory removes cold humors, and starflower removes melancholy humors
Senna	1/2 ounce	Laxative
Yellow unguent	1 real	Healing salve with base of oils and waxes, can contain a small amount of herbs.
Paste made from poppies	2 3	Narcotic, anti-diarrhea
Lupin flour	2 reales	Ulcers, anthelmintic, diuretic, and emmenagogues

⁴⁸ AAL, Causas Civiles, 50-16, s.f. (1640). Regarding the medical properties of starflower and starflower oil see J.G. Vaughan, P.A. Judd, *Oxford Book of Health* (Oxford: Oxford University Press, 2003), 23; John Gerard's sixteenth century report on violets is excerpted in John K. Crellin and Jane Philpott, *A Reference Guide to Medicinal Plants: Herbal Medicine Past and Present* (Durham: Duke University Press, 1989), 439; Daniel F. Austin, *Florida Ethnobotany* (Boca Raton: CRC Press, 2004), 328; Robley Dunglison, *A Dictionary of Medical Science* (Philadelphia: Blanchard and Lea, 1857), 576; Bashar Saad and Omar Saad, *Greco-Arab and Islamic Herbal Medicine: Traditional System, Ethics, Safety, Efficacy, and Regulatory Issues* (Hoboken: Wiley, 2011), 108, 116, 202.

TABLE 6.3 (contd.)

Item	Amount	Uses
Syrup from violets and roses	Taken 3 times	Roses used as a laxative
<i>Miel rosada</i> [rose honey]	2 ounces	Gargled, soothes throat
Pomegranate peel	2 reales	Astringent, anti-diarrhea
Sweet almonds		Pain killer, diminishes excess heat

Zapata took a number of different drugs in his final days, all with the hope that something would restore his health. Despite his efforts and the powerful laxatives mixed with purgatives and heavy narcotics, his body refused to heal.

6.4 *Cabildo* Inspections of Pharmacies

Colonial medicines were so powerful and exclusive that they required a level of strict surveillance and careful management that the *protomedicato* alone could not provide. Spanish law set the precedent for external interventions by granting political institutions such as the office of the viceroy and high courts the authority to regulate pharmacies within their jurisdiction.⁴⁹ In Santiago de Chile, both the *cabildo* and the governor initiated pharmacy reviews. Moreover, the *cabildo* even compelled the

⁴⁹ *Recopilación de leyes*, 141.

city's pharmacist to hold regular business hours from 7-10 in the morning and 4-10 in the evening.⁵⁰

Certain scenarios inevitably triggered the *cabildo's* involvement, such as the absence of a *protomedicato* or rumors that pharmacists were dealing in expired drugs. Throughout the sixteenth century, Spain could not keep up with the staffing needs of its overseas empire and local municipalities had to improvise. In Mexico City and Lima, *cabildos* appointed their own medical tribunals when the Crown failed to send a candidate.⁵¹ Mexico City's *cabildo* selected its own *protomedicatos* from roughly 1546-1603. These decisions were binding provided that the Crown did not contest them.⁵² Initially, the office of *protomedicato* evolved quite differently in Lima, where the city's first official arrived with license in hand in 1537 and the post remained filled until 1581.⁵³ At that time, however, several medical professionals practiced without licenses because there was no one to confirm their credentials. Lima followed Mexico City's lead. Citing a number of reckless pharmacists, "dispensing dangerous drugs," the *cabildo* appointed Licentiate Alvaro Torres as *protomedicato*.⁵⁴ This even

⁵⁰ Ricardo Cruz-Coke, *Historia de la medicina chilena* (Santiago: Editorial Andres Bello, 1995), 154.

⁵¹ These struggles, representative of the early colonial period, diminished significantly by the mid seventeenth century, at which point Spain had established six tribunals in Latin America in Lima, Mexico City, Santa Fé de Bogotá, Cartagena, Havana, and Guatemala.

⁵² John Tate Lanning, *The Royal Protomedicato*, 26.

⁵³ Allegedly, when Dr. Hernando de Sepúlveda arrived in the City of kings and presented his credentials to the *cabildo*, he had to wait until the town council could summon someone who could read its Latin text. *Ibid.*, 29.

⁵⁴ *Ibid.*

illustrates that when the circumstances warranted, municipal leaders selected their own medical officials.⁵⁵

To safeguard citizen welfare, the *cabildo* initiated serious inquiries into rumors about pharmacists selling expired drugs. One incident occurred in the absence of the *protomedicato*. The *cabildo*'s minutes read, "[t]he city's pharmacy has medicines that are quite spoiled, and this causes great harm to the Republic. Therefore, the *cabildo* ordered the bachelor Juan de Castro, physician...to accompany the deputies of this city to examine its pharmacies."⁵⁶ In this particular circumstance, the *cabildo* instructed a physician to review the quality of medicines kept in Lima's pharmacy.

Municipal leaders expected Castro to review the pharmacy's stock systematically, from the integrity of storage containers to the smell of different herbs. Aromatic herbs were kept in airtight boxes to slow the dissipation of their odors.⁵⁷ Oils were stored in glass, marrow and lard in zinc boxes, and more precious items in gold and silver containers. Often these receptacles were painted or carved with an ostentatious design to both please and impress the customer.⁵⁸ Castro undoubtedly opened the pharmacist's jars, looked at them, touched them, and lifted their contents

⁵⁵ Lima seemed to enjoy a more consistent supply of royally backed *protomedicatos*, thus, "...[E]liminating the jurisdictional problems between the *cabildo* and the viceroy over the appointment process." *Ibid.*, 29.

⁵⁶ At the time there was only one pharmacist working in Lima. 16 October 1539 Concejo de Lima, *Libros de Cabildos*, 1:287.

⁵⁷ Hermann Peters, *Pictorial History of Ancient Pharmacy*, 36.

⁵⁸ *Ibid.*

to his nose and smelled them. If he were to find any spoiled medicines the *cabildo* authorized him to order the pharmacist to dump it out.⁵⁹

By the end of the sixteenth century, there were several new pharmacies that required surveillance. The *cabildo* organized a review of all of them, claiming that the current *protomedicato*, Homero, had not done so for quite some time “...therefore it is presumed that the medicines in those pharmacies are damaged and corrupted and not the least bit beneficial.”⁶⁰ Town council members assumed that without supervision and review, pharmacists would neglect their customers and sell nefarious drugs.

Whether or not a *protomedicato* were present, municipal leaders protected colonial bodies by scrutinizing the pharmaceutical trade. They investigated fraud allegations and appointed their own *protomedicatos* in the absence of a royal official. Spanish law extended a de facto medical authority to political institutions, a role readily assumed by Lima’s town council.

6.5 Municipal Intervention in Pharmaceutical Practice

Contention over drug preparation reveals a layer of social tension regarding who could fill prescriptions. The events of April 1572 illustrate one such example. On that date, town councilmen reviewed testimony that slaves and Indians working in apothecary shops were actually undermining public welfare. The municipal scribe recorded, “[g]reat inconveniences and damages follow and can follow in this city’s

⁵⁹ 16 October 1539 Concejo de Lima, *Libros de Cabildos*, 1:287.

⁶⁰ Hay en ellas muchas medicinas corrompidas y otras que por haber mucho tiempo que están en las boticas ya no son de ningún provecho. 6 November 1598, Concejo de Lima, *Libros de Cabildos*, 13:186.

pharmacies where black slaves attend [to patients] and distribute stock and medicines, because black men and women and Indians give out items and many times it is the exact opposite of what recipes call for.”⁶¹ Furthermore, this put the “Life and health of the sick in danger, because [these assistants] often sell prohibited medicines such as opium, nitrates, and mercury chloride.”⁶² At stake in these discourses was the question of who should and should not handle medicines.

Town councilmen were uncomfortable when the distinction between the approved activities of pharmacists and their assistants was not observed. On the one hand, pharmacists were trained, licensed, and examined. In theory, they oversaw their assistants’ preparation of simples, compounds, and other recipes. On the other hand, assistants participated in almost every aspect of the shop by preparing medicines, filling prescriptions and recording sales, activities that delegated a considerable amount of power to blacks and Indians. Defending their mistrust the *cabildo* explained “The art of pharmacists requires a lot of science, skill, and fidelity, which blacks and Indians cannot possess. And the same Spanish artist who works as a pharmacist makes and learns every day from his errors.”⁶³ In the *cabildo*’s opinion, non-Europeans were neither educated enough nor mentally capable of performing all the tasks required of a pharmacist or pharmacist’s assistant. People of African

⁶¹ Grandes inconvenientes e daños que se siguen y pueden seguir de que en las boticas desta ciudad están y asistan en ellas negros esclavos e dan recaudo y medicinas porque los negros, negras e indios dan recaudo muchas veces de lo contrario que se les pide por las recetas. 2 April 1572 in Concejo de Lima, *Libros de Cabildos*, 7:270.

⁶² Que viene perjuicio de la vida e salud de los enfermos e suelen dar medicinas vedadas con opio por otras medicinas salitreras e vendan solimán en lo cual y en todo lo demás que hacen. Ibid.

⁶³ La arte de boticarios requiere mucha ciencia e habilidad e fidelidad lo cual no puede haberse en los dichos negros ni indios y los mismos españoles arista en el dicho oficio se hace e aprendan cada día errores que se castigan más en gente tan ignorante y frágil y de poca fieldad. Ibid.

descent, women, and Indians now faced punitive legal action if they continued working in *boticarios*.⁶⁴

Town councilmen also assumed the *protomédicato*'s role of reviewing medical titles and licenses.⁶⁵ Medical professionals traveled to Lima across Iberia and the Americas, and sometimes their qualifications were easy to verify, and other times the paperwork was lost or damaged. Nevertheless, the *cabildo* did its best to ensure that those practicing in hospitals and pharmacies were vetted either by the *protomedicato* or a representative of the town council. Together, with the *protomedicato*, municipal leaders protected the welfare of the Republic by regulating medicines and medical practitioners.

Access to medicine also came under the scope of the *cabildo*'s interest, especially at Hospital San Andrés, where it sponsored medical staff and subsidized care. To fill a vacancy at Hospital San Andrés, the *cabildo* hired Pedro López de Aguirre to work in the pharmacy and supply its drugs. On top of his salary, they agreed to pay him for any medicines used, asking only that he present an itemized list before the *cabildo* every three months. Aguirre proceeded to dispense prescriptions and run up the *cabildo*'s debt, but he failed to meet their terms of the bargain, never submitting accounting records. When, in 1556, the town council ordered him to surrender his lists, Aguirre refused.⁶⁶ The *cabildo* asked the *mayordomo* and two deputies to audit Aguirre, threatening him with a fine if he withheld any information.

⁶⁴ 2 April 1572 Concejo de Lima, *Libros de Cabildos*, 7:270.

⁶⁵ 16 September 1580 Concejo de Lima, *Libros de Cabildos*, 9:284.

⁶⁶ John Tate Lanning, *Royal Protomedicato*, 41.

The outcome of Aguirre's case illustrates both the *cabildo*'s desire to subject him to their authority and the council's vested interest in the health of San Andrés' patients. It apparently took Aguirre another fourteen months to get his affairs in order. When he finally presented his records in the town hall, he submitted an extensive bill. The *cabildo*, unwilling to pay what they viewed as an outrageous amount to an individual who had consistently rebuked their authority informed him that he could either accept 600 pesos for his services or find employment elsewhere.⁶⁷ López rescinded his accounts and accepted 700 pesos instead. The agreement served the town council well, because it disciplined Aguirre and secured apothecary services for San Andrés. While the majority of its clientele were poor Spanish men, the hospital also tended to black laborers who worked in the limekilns, tile factories, and masonries.⁶⁸ This sector of society was central to the execution of public works such as public fountains, and the *cabildo* had a vested interest in rehabilitating them.

When the town council arbitrated in pharmacy prices it was almost always in cases involving egregious fees. As seen in other trades such as bread making (see chapter 4), the municipal government regulated marketplace transactions, when rates became excessive, the *cabildo* "...could no longer ignore the murmuring," and they set maximum prices.⁶⁹ They claimed that this served the interests of the poor, who were helpless to defend themselves against the apothecaries' abuses.⁷⁰ The *cabildo*

⁶⁷ John Tate Lanning, *Royal Protomedicato*, 41.

⁶⁸ Concejo de Lima, *Libros de Cabildos*, 7:160 and 9:266-267.

⁶⁹ John Tate Lanning, *Royal Protomedicato*, 54.

⁷⁰ 28 March 1556 Concejo de Lima, *Libros de Cabildos*, 5:425.

delegated pharmacy pricing to a committee group who dedicated time to investigating and regulating sales.⁷¹

The *cabildo* did not wish the high cost of prescriptions to deter patients from receiving the care they needed, and for that reason they protected a customer's right to pay at a later date. On March 28, 1556, the *cabildo* voiced concerns that pharmacists were both overcharging and denying patients credit "...the pharmacists will not give them any medicines, unless they go with money in hand."⁷² Even then the pharmacists reportedly charged exorbitant prices.⁷³ Adducing further evidence, the *cabildo* decried:

It is well known that when physicians come to the pharmacy and add up the price of prescribed medicines, they calculate the price to be four to five times less than what the pharmacists calculated...because of this the republic and the poor receive and have received noticeable harm and grievance.⁷⁴

These accusations bring to light the deep-seated mistrust that municipal leaders felt towards apothecaries, and their interest in grouping medicines under their marketplace regulations.

The common good was extended to include activities that impinged on public health, but the municipality benefitted in economic, social and political ways as well. By intervening in pharmaceutical practices, *cabildo* members ordered *protomedicatos* to conduct inspections, blocked non-Europeans from practicing the art of pharmacy,

⁷¹ John Tate Lanning, *Royal Protomedicato*, 55.

⁷² No se las dan sino llevan el dinero en la mano. 28 March 1556 Concejo de Lima, *Libros de Cabildos*, 5:425

⁷³ Ibid.

⁷⁴ Es notorio a todas las medicinas que los dichos boticarios dan por recetas al tiempo que se vienen por los médicos a tasar la tasan en cuatro y cinco partes menos de lo que los boticarios tienen tasados y piden por ellas en lo cual la república y los pobres reciben y han recibido notorio daño y agravio. Ibid.

and set price controls on medicine. When it assumed these responsibilities, the *cabildo* asserted its authority within the local medical bureaucracy.

6.6 Conclusion

Virtually everything the *cabildo* did with respect to the regulation of pharmacies can be understood as a function of their concern that citizens have the best access to medicines at fair prices. They achieved this by playing an intermediary role, reinforcing but also overstepping the authority of Lima's *protomedicato*. Pharmacy practice required a level of discipline and scrutiny that only trained physicians and pharmacists could provide. In the minds of town councilmen, on European, university trained men possessed the faculties to prescribe prepare and dispense drugs. Consequently, individuals who did not meet that definition were prevented from entering the *boticario* trade in any form.

CONCLUSION

Lima's colonial past, and how the municipality wrestled with the local environment still influences urbanization patterns in Lima. Almost all of Lima's operating *acequias* are modified versions of pre-Hispanic lines. Today at 4 o'clock in the morning a man went to work on the Surco *acequia*. He began by opening the first control gate to and manually adjusting the volumetric flow rate. The canal runs a course of 30km from Ate to Chorillos, a distance that takes the water two hours to travel. Over half of that journey is through covered irrigation lines, with only a third of its *acequias* still exposed to the outside world. Various organizations make up its users, including twelve municipalities, six military institutions, agricultural fields, universities, and a recreational club. In total, sixty-six organizations share the *acequia* according to a water schedule. The San Isidro district, for example, uses the irrigation canals every Monday from 6 A.M. to 6.P.M., and the following day the upscale Miraflores neighborhood takes its turn during the same twelve-hour stretch.¹ Nearly five hundred years after the Spanish foundation of Lima, irrigators in the Rímac River continue to share water in ways that echo the colonial period.

And water still demarcates jurisdictions, but who administers it has changed. In modern-day Lima, there are seventeen irrigation commissions managing water distribution from the Surco and Huatica *acequias*. Between them they oversee a

¹ Javier Lizarzaburu, "Sistema de riego de parques de Lima: herencia prehispánica vigente," *El Comercio*, 9 January 2012, A14.

system that keeps over 80% of Lima's parks and agricultural fields from returning to their natural state. Water flows through the irrigation canals to Lima's neighborhood districts from the historic city center to Jesús María to Miraflores to Barranco and beyond and requires the constant collaboration of its users, much like the interdependent relationships experienced by irrigators in the colonial period.

This may not be surprising given that the physical area occupied by Lima's metropolis changed very little from about 1650 until the nineteenth century.² Although Lima's population boom began to level out, the municipality struggled to implement a cohesive public health agenda. Historian David Parker found that Lima faced perpetual funding shortages for hospitals and sanitation programs. In the late nineteenth century, the dream of a modern, clean, and healthy City of Kings sparked a new round of "civilizing" reforms to transform the old colonial capital into a metropolis worthy of its name.³ By the twenty-first century, Lima began to grow again; its urban footprint doubled and then quadrupled in size from 1908 to 1938 and then again by 1945.

In recent years, Lima's urban environment has once again changed dramatically. The demand for land and housing has funneled immigrants into the city's northern and southern extremes known as *Cono Norte* and *Cono Sur* [respectively Northern Cone and Southern Cone]. The rapid influx of people contributed to a new problem, the formation of several *barriadas* [squatter settlements], many of which lack running water, electricity, and basic healthcare

² Juan Bromley, *Desarrollo de Lima*, ii.

³ David Parker, "Civilizing the City of Kings: Hygiene and Housing in Lima, Peru," in *Cities of Hope, People, Protests and Progress in Urbanizing Latin America, 1870-1930*, eds., Ron Pineo and James A. Baer (Boulder: Westview Press, 1998), 154-155, 162.

services.⁴ One of those slums, Carabayllo, was actually an *encomienda* awarded to one of Lima's first town council members, Don Domingo de la Presa.⁵

The private investment group Padova selected Carabayllo in 2011 as part of a 30 million dollar real estate development project.⁶ Companies poured in hoping to cash in on this wave of urbanization and development. But their plans came to a screeching halt in March 2015, when Padova and other development companies pulled out of the project because of an inefficient sewer system. Peru's waste management company, Sedpal, cannot keep up with the quantity of sewage backing up into Carabayllo's sewers.⁷

The recent struggles between the humans and the urban landscape are deeply rooted in colonial problems, as the examples of water distribution and sanitation show. Lima's environment informed how local political power evolved in the City of Kings. Town councilmen wrote the body, the environment, and their own power into municipal laws, ordinances, and policies. What they left behind in the documentary record is a discourse on the nature of public health and its interlinked relationship to municipal administration. The *cabildo's* intervention in the local politics of the body served two purposes. It promoted the common good by implementing practices that benefited the welfare of Lima's citizens and reinforced the *cabildo's* right to govern different constituencies.

⁴ Bill Chambers, "The *Barriadas* of Lima: Slums of Hope or Despair? Problems or Solutions?" *Geography* 90:3 (2006): 200.

⁵ Consejo de Lima, *Libros de Cabildos*, 2-3:73.

⁶ Claudia Valdivieso and Diego Chirinos, "Desarrollo inmobiliario en Carabayllo: una oportunidad al desagüe?" *Semana Económica* (9 March 2015).

⁷ Ibid.

Central to the public health discussion was the idea that residents needed protection from an ominous environment. The *cabildo* fulfilled this role. Five themes capture the ways in which the municipal government intervened in the politics of the body: water distribution, hospital care, land use, food production, and pharmaceutical practice. Flowing through each of these chapters and providing a link between them were contemporary theories of illness. In particular, town council members worried that miasmas undermined the body and the welfare of the republic. Smells, whether pleasing or noxious, moved unrestricted through the city and the valley. Lima's environs linked residents to the same ubiquitous body of air.

Lima's location and surroundings influenced the organization of the city and the trajectory of its expansion. Located in the middle of a coastal desert, bound on the west by a saline ocean, Lima depended on one of three irregularly flowing rivers to survive. The indigenous hydraulic network and the presence of indigenous communities informed where Spaniards settled and how they accessed water. The geography of the Rímac River Valley was such that the placement of *acequia* lines was far from random. The natural course of the river and the local geography determined how indigenous peoples placed irrigation canals. Archaeologist Juan Günther explains that an *acequia* could not be placed parallel to the river nor perpendicular. In the former case, the water would flow too slowly or not at all, and in the later, the current would move too rapidly. Moreover, owing to the topography of the valley and its gradual slope to the coast, the river would have eroded any perpendicular canals.⁸ Spanish colonists who relocated to the valley settled along the

⁸ Juan Günther-Doering, *Memorias de Lima*, 50.

hydraulic network and expanded the canals by following the precedent of indigenous engineering.

The environment also came to symbolize the vast separation of power and influence between Lima's residents. Many programs implemented by the town council emphasized the health of the city and the purity of its airs. Odiferous trades including fish merchants, tanners, and butchers operated in specific neighborhoods. This came at the expense of marginalized communities, such as the San Lázaro neighborhood, where town councilmen exiled contagious and dangerous groups of people.

In a similar manner, consumption policies also divided European from non-European bodies. Citing the commonwealth, the *cabildo* legally banned blacks and Indians from operating public drinking venues and from frequenting them. Although the *cabildo* worded these policies in the language of public health, these measures benefited town council members. Intervening in the urban economy whether through alcohol sales or felling licenses, was profitable to town councilmen. The environment and the local politics of the body provided a legal channel through which councilmen exercised authority over colonial bodies and landscapes.

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