



Introduction

IN HIS FIRST MAJOR PUBLICATION, a work of rudimentary demographic analysis, a young doctor in Lima by the name of José Gregorio Paredes undertook a novel task. In 1807, just three years after receiving a medical degree at Lima's University of San Marcos, Paredes attempted to predict how a promising new medical practice might transform the size and health of the city's population. He concerned himself specifically with the widespread distribution and application of Edward Jenner's smallpox vaccine, which had been discovered in England eleven years earlier and had recently been made available to doctors in Peru. Drawing on parish and hospital records and combining them with census figures and information on infant mortality gathered from Lima's foundling home, Paredes used statistical methods to "determine the population that would exist at the end of an indicated time period, assuming the prophylactic effect of the vaccine is successful." In making this calculation, he also sought to compare his findings to what might happen if the colony's doctors either neglected to employ the procedure or employed it incorrectly, prolonging the "cruel tyranny of smallpox" that had ravaged Peru's inhabitants for centuries.¹ In this way, he aimed to demonstrate that the vaccine was key to enabling Lima's doctors to fulfill their recently formulated goals as colonial reform-

ers. Prominent creole (American-born Spanish) physicians, who were the majority of physicians in Lima and often held positions of authority, had declared that they would use medicine to extend life expectancy, bring about population growth, and facilitate the colony's regeneration.

Paredes's work was unique because very few Peruvian doctors had ever set out to calculate future population change, and none had ever done so with such precision. Paredes himself acknowledged that migration to and from Lima made accurate predictions about the city's size difficult, and he did not even attempt to grapple with population figures for the viceroyalty of Peru as a whole. Nevertheless, he declared with certainty that the benefits of smallpox vaccination would be dramatic and would vastly outweigh the effects of the various processes of outward migration. He calculated that without the smallpox vaccine, Lima's population would slowly climb, from 58,727 inhabitants in 1806 to a mere 84,658 inhabitants in 1906. If the vaccine were employed widely, however, the population would soar by another 44,085 people, to reach a total of 128,743 by 1906. The vaccine, furthermore, would eventually eliminate smallpox if administered to everyone in Peru. This mass vaccination would sharply increase life expectancy and reduce infant mortality. In Lima, it would lessen the number and frequency of epidemics in a city known for its residents' poor health.²

Paredes lived and worked in the political, administrative, and economic heart of a colony that had once stretched the full length of South America and had flooded Spain's treasury with silver. Founded in the 1530s, the viceroyalty of Peru quickly became famous for its mineral riches, located in Potosí and across the Andean highlands. During the sixteenth and seventeenth centuries, a period in which the Hapsburg monarchy ruled Spain, the colony's coastal regions were likewise productive zones for plantation agriculture. Peru's lowland capital, Lima, and its port of Callao constituted thriving, bustling, diverse merchant cities populated by both American-born and Spanish-born Spaniards (who were known, respectively, as creoles and peninsulars), free and enslaved Africans, people of mixed descent (known as *mestizos* and *castas*), and indigenous people legally categorized as Indians. The colony was, by all accounts, an enormously valuable part of Spain's empire, and, in Europe, exotic tales of Lima's inhabitants and the city's riches abounded.

In the eighteenth century, however, many among the political elite questioned these perceptions of Lima and Peru. Declining mining revenue, the successes of rival British and French colonies, and the rise to power of the Bourbon monarchy in Madrid led many to blame practices of Haps-

burg colonialism in the previous centuries for the failure to maximize Peru's full productive potential. Crown authorities and prominent writers on both sides of the Atlantic disparaged both the colony's gradual economic decline and its overall population loss since the Conquest. They debated how to make Peru more useful to the Bourbons, whose rule in Spain began in 1700, and the proposals they developed to transform the colony would eventually inspire Paredes. Many of them argued that since Peru had entered into a demographic collapse under the Hapsburgs, it clearly needed more inhabitants. A greater number of workers would translate into more labor output and more revenue produced for the Crown.

In both his 1807 work of population analysis and his subsequent publications on disease and climate, Paredes embraced these forms of reasoning. He insisted that new medical practices such as the smallpox vaccine were key to increasing the population of not only Lima but also the viceroyalty of Peru and the general captaincy of Chile. He reiterated these claims after the colony achieved independence in 1821, when he was a respected doctor and a member of Peru's Constituent Congress.³ In making arguments about medicine and demographic growth, however, his was not the only voice in the medical profession. Paredes built on the efforts of a generation of notable creole physicians under whom he had studied, who had become Peru's most outspoken advocates of medical reform. Although not the colony's only physicians, they had campaigned for decades to transform the status of doctors and the purpose of medicine in the colony. While Paredes's forward-looking claims about the Jenner vaccine were unique in many ways, they repeated doctors' assertions about the potential of medicine to refashion and improve society. Responding to the shifting political rhetoric of the Bourbon Crown, physicians argued that they could use medicine to produce a healthier, more productive colony and address what they perceived to be Peru's number-one problem: the shrinking size of its population.

By tracing the history of medical reforms in Bourbon Peru, this study emphasizes how doctors and government officials like Paredes sought to address what they viewed as an ongoing population crisis in the colony. Various sectors of society perceived the crisis in different ways and at times contested and reshaped the reforms authorities devised, and the resulting struggles over medical authority, beliefs, and institutions tell us a great deal about late colonial political culture. The medical reforms undertaken during this period can be viewed in the context of more expansive measures known as the Bourbon reforms, which sought to transform life in the Spanish colonies according to principles of rationalism and order, to

enhance the power of the Crown over colonial subjects, and to increase the productivity of the colonies for the benefit of Spain. Physicians in late colonial Peru drew on and redeployed the political rhetoric and policies of the Bourbon Crown in order to redefine their own work and convey its importance. Moreover, the reform movement they envisioned pitted doctors against powerful segments of the Catholic Church, an institution traditionally engaged in the healing arts and one that came under attack more generally as Bourbon reformers set out to increase state power. The rise of efforts to improve health, prevent epidemics, increase the population of the colony, and concentrate authority in the hands of physicians constituted a contentious movement toward medical modernization. These medical reforms, while rarely conceived as part of the Bourbon reforms, became a tool by which prominent creoles in the colonies attempted to assert their own autonomy, expertise, and relevance as collaborators with the Crown. Aware of their own political subjugation, creole physicians contested their marginality within the colonial project by intervening in the bodies, rituals, customs, and health of their fellow colonial subjects.

Outlining a Population Crisis

Doctors were not the only “experts” concerned with population size and the colony’s future. In the eyes of many among the colony’s intellectuals, Peru had entered into a demographic crisis by the 1790s. This crisis threatened to impede the expansion, reform, and progress of colonial society. Nowhere is this perceived threat more apparent than in the essays published between 1791 and 1796 in the colony’s leading scientific and intellectual journal, the *Mercurio Peruano*. For the journal’s writers, depopulation explained why Peru, in their eyes, suffered an increasing decadence. The shrinking population threatened the entire colonial enterprise. Borrowing from the logic of the Bourbon reforms, they argued that bringing about the regeneration of the colony would be possible only by applying “useful knowledge” to society in novel ways. Seen as part of the rational reform of the colony, this knowledge included the healing arts, which would be employed to extend life expectancy, rehabilitate the sick, discover cures for diseases, and halt epidemics.

In reality, Peru’s population was doing anything but declining at the end of the eighteenth century. Despite the Tupac Amaru and Tupac Katari rebellions—two massive highland peasant uprisings in the early 1780s that merged with more localized movements, threatened to overthrow the colonial regime, and resulted in immense numbers of dead—Peru’s indig-

enous population had been growing steadily since the beginning of the century.⁴ Modern demographic histories of colonial Peru and Upper Peru (present-day Bolivia) indicate that the population began to recover beginning sometime between 1710 and 1730, and the population of the colony continued to grow as the century progressed.⁵ Still, for Lima's political and intellectual elites in the 1790s, the colony's shrinking population was a rarely disputed (and poorly measured) fact that contributed to a general state of decadence and threatened an impending crisis.

Recent events had heightened the sense of urgency surrounding the elites' concerns about society, population, and economic growth. For one thing, the division of the viceroyalty of Peru in 1776 and the resulting creation of the viceroyalty of La Plata contributed to a period of economic decline in Lima and parts of the highlands. New political boundaries diverted the official silver trade from the southern Andes toward Buenos Aires, depriving Lima and towns along the central Andean trade routes of revenue.⁶ More generally, the viceroyalty of La Plata undermined Lima's position as the dominant trading port in Spanish South America at a time when the Crown was also increasing taxation of the colony's internal economy. Authorities argued that Peru's population size exacerbated these changes in the years that followed, since the colony lacked sufficient inhabitants to expand its remaining forms of production or develop new sources of revenue. This situation created the sense that Peru was an ailing colony that had long since passed its apogee and that lacked sufficient workers.

The destruction and violence of the highland rebellions in the 1780s added to these concerns about economic decline and population size. The scale of the uprisings led to calls among the elite and among government authorities to subdue, police, and reform Andean populations. Most notably, Crown officials sought to integrate highland communities into the colonial system and control them more effectively through the establishment of a system of intendants, who were peninsular Spanish administrators charged with monitoring local officials. However, other, less well known proposals also captured officials' attention at this time and more directly addressed problems of population loss. With regard to medicine, for example, officials of the Catholic Church and the government briefly advocated training rural priests in the healing arts. Proponents of this measure advocated training clergy to execute postmortem Caesarean sections as a means of increasing rural populations and teaching parishioners about the true nature of the soul. Citing high levels of infant mortality and the dan-

gers of childbirth, they claimed that the procedure could be employed to save the life of an unborn child when the pregnant mother died; the priest would also quickly be able to baptize the child.⁷ Building on a local friar's medical-theological study of the operation, one *fiscal* (government functionary) in Lima urged priests to overcome their fear of handling deceased mothers' bodies and instead "focus on the certainty of using the incision to give life to so many unhappy creatures without fault, who would otherwise lack eternal happiness."⁸ The precarious conditions for pregnant mothers, coupled with religious beliefs at the time, thus fueled broader debates about the potential of the healing arts to reshape colonial society.

Although he was not a doctor, José Baquijano was perhaps the most outspoken intellectual in the 1790s to express his despair over depopulation to the readers of the *Mercurio Peruano*. Moreover, he allied himself with various doctors in order to promote medical reforms. A professor at Lima's University of San Marcos, Baquijano portrayed Peru's demographic collapse centuries earlier as a result of the cultural shortcomings of the colony's indigenous peoples. He blamed their stagnation on past constant warfare between groups, their practice of sacrifice, their poor diet, their rudimentary agricultural practices, and the unhealthy nature of the lowland climates. Although he believed Peru's indigenous populations were more advanced than those in other areas, Baquijano reasoned that their societies became susceptible to demographic collapse because they lacked useful knowledge of mathematics and other sciences and because the region's topography impeded additional development. He concluded that this lack of knowledge, "combined with the inherent vices of the terrain, hindered in Peru the progress of agriculture, since although the colony from the beginning has been favored by the production of all genres of metals, it has also been condemned by the sterility of other aspects of nature."⁹

In Baquijano's view, the presence of the Spanish neither resolved the problems of indigenous population loss nor spurred economic growth. If anything, the model of colonialism the Hapsburg monarchy employed prior to 1700 had led much of the colonial economy to languish. Citing the work of earlier historians and employing eccentric forms of population analysis, Baquijano wrote that time had shown this economic stagnation to be a fact. "In nearly three centuries Peru has had no increase in the production of fruits," he claimed, "and those are in proportion to the number of inhabitants, the only consumers with which such commerce can be maintained."¹⁰ In addition, the Spanish had directly caused harm and contributed to population decline through their use of exploitative

measures. According to Baquíjano, the *mita* (forced labor draft), which often condemned indigenous people to grueling work in the mines, had contributed to the forces causing “their destruction until today the diverse classes, sexes, and ages in this viceroyalty number less than 700,000.”¹¹ The *mita* caused harm, he concluded, because it separated workers from their families, forced them to travel to more harmful climates (where they then fell ill), and led them to work in mines under dreadful conditions. Alcohol consumption and the introduction of smallpox had further reduced indigenous life expectancy.

As director of the *Mercurio Peruano*, Baquíjano found questions of mine productivity and labor shortages especially troubling. He argued that these problems undermined Peru’s relevance as a source of revenue for the Crown, and he made particularly clear the link between population size and economic growth. But he was not alone. Writing under the pseudonym of Thicio Antropófobo, one mine owner proposed that the greatest problem undermining Peru’s mineral output was “its lack of workers, and the precarious system of labor on which we are dependent.” Antropófobo argued that only the colony’s Indians proved capable of working in the mines because, in his view, Africans, *castas*, and Spaniards proved physically unable to endure the harsh conditions below ground. After discussing each group’s experience in the mines, he wrote that mining was a profession and an enterprise that “in the end only Indians can sustain. The Indian, accustomed to the intemperate and poor conditions of the mining lands, is the only one capable of working them; their labor is what we need, and in this can be found our true rehabilitation.”¹² The progress of the colony thus depended on expanding its indigenous population and developing new, more effective systems to exploit its labor.

Taking a more medically informed approach, other writers decried the effects of disease and working conditions on indigenous bodies. They claimed that these factors also led to labor shortages. Describing the province of Cajatambo, one writer blamed the lack of indigenous workers in particular on epidemics, most notably smallpox. In addition, he cited health problems resulting from changes in altitude and environment as workers traveled to new jobs, and he lamented that the country “lacks doctors and preventative and curative remedies.”¹³ Likewise, Francisco Joseph Rodríguez blamed worker shortages on the traditional practice of using mercury to extract silver from ore. Indigenous laborers who engaged in this process worked out in the open, at high altitudes, from six o’clock in the morning until four in the afternoon, often in snow or sleet, and

with their feet and legs exposed. Building more elaborate explanations, Rodríguez argued that cold and wet were “not the only harm they experience. By introducing into them metallic particles, and especially mercury through the pores of the skin, this practice causes dizziness, pleurisy, paralysis, colic, and many other ills.”¹⁴ In order to limit further loss of life and reverse declines in mineral production, Rodríguez proposed that miners would have to adopt a new processing technique from Europe.

Those concerned about population levels and the decline of Peru’s mines were no more optimistic about agriculture. They blamed its stagnation on labor shortages that required the Crown’s immediate attention, and they made direct correlations between population size, environmental conditions, agricultural output, and economic growth. Baquíjano, for example, argued that progress depended more on population size than land availability, since “it is the men who cultivate fields, exercise commerce, and facilitate the circulation of their goods. Clearly, a depopulated state makes no progress in these areas.” Reasoning that without laborers there would be no development, Baquíjano suggested that the disproportionate relationship between population and land led to frustrated ambitions, which prevented the colony from reaching its full potential.¹⁵ Doctors and other intellectuals thus believed they must employ “useful knowledge” to increase the colony’s rural population.

Still other intellectuals applied these same arguments to the analysis of cities at the end of the eighteenth century. Drawing on census materials dating as far back as 1600, one writer suggested that Lima’s population had reached its peak as recently as the 1740s. Using *padrones* (registries) and confession records, he argued that just prior to the devastating earthquake of 1746 the total population of the city and its haciendas was approximately 60,000. Although the population recovered after the earthquake and by 1781 had reached 60,800, he nevertheless lamented that a recent census indicated a new period of population decline. Writers had speculated in 1781 that the city’s population might reach 70,000, but the population in 1791 was a mere 52,627, which indicated a failure to achieve a healthy number of productive subjects. Although authorities believed the true number of inhabitants could vary by up to 2,000, they considered this particular census to be fairly exact. It thus cast doubt on the accuracy of the 1781 calculations while raising important questions about why the city’s population would drop and how doctors might reverse this trend.¹⁶

Creole physicians directly contributed to these debates about population loss in the 1790s, and they attempted to make themselves central

to solving the colony's woes. Lima's leading doctor, Hipólito Unanue, lamented publicly in 1792 that disease in Peru had rendered "its inhabitants devoured." In his opinion, the colony had become a desolate place that "only presents piles of ruins, deserted plots of land, and destroyed mines!"¹⁷ Building on public hygiene reforms in the 1770s and 1780s in which officials promoted a centuries-old method for preventing smallpox and established urban sanitation measures in Lima and Cuzco, Unanue and other creole physicians sought to apply "useful knowledge" to the reform of society. They adopted medical reform measures from Spain and found new ways of their own to rehabilitate the sick, cure diseases, and prevent epidemics. As a result, physicians asserted their authority over the lay brotherhoods that administered hospitals. They also modernized anatomical teaching in the colony, took control of smallpox vaccination campaigns in Lima and elsewhere, discovered and tested new treatments for "curing" lepers, introduced reforms to make funeral and burial rituals more hygienic (as a means of preventing epidemics), and opened the first medical school in Spanish South America. Encouraged by the likes of Baquíjano, they also sought to transform their role in politics in the last decades of colonial rule. By making medicine central to the politics of colonial reform, they aimed to enhance their power in reshaping the lives of subjects. Creole doctors thus stood at the center of debates in Bourbon Peru about the future of the colonial social and political order.

Creole Doctors and the Bourbon Medical Reforms

The medical reforms that creole doctors proposed and implemented may help to enhance our understanding of the broader political transformations that took place in late colonial Spanish America. Many scholars have written extensively about the Bourbon reforms, which were the set of changes in administrative, economic, and social policies that redefined the relationship between each colony and Spain during the final century of Spanish rule.¹⁸ In general, historians argue that the Crown and its representatives in the New World implemented such measures to enhance state power, increase revenue extraction, and refashion society according to principles of order and rationalism. Traditionally, scholars of the Bourbon period have focused on the administrative, military, and economic aspects of these reforms and have characterized them as having been developed and imposed on Spanish America from outside.¹⁹ In many cases, they have viewed these reforms as a reflection of a strong, increasingly centralized state.

More recently, scholars have begun to question the power and dominance of the state and ask how colonial populations themselves appropriated, articulated, and critiqued the logic of the Bourbon reforms. In Peru, much of this literature, with few exceptions, has focused on peasant revolts.²⁰ This focus is not the case, however, regarding other parts of Latin America, where urban history and the state's limited ability to reform the lower classes have garnered the most attention.²¹ For example, in her study of Mexico City's Poor House, Silvia Arrom argues that local interference in relief projects for the poor revealed the contradictions of the state and its inability to exercise power effectively. "Far from being a hegemonic Leviathan," she writes, "the Bourbon state was a complex entity ridden with internal conflicts."²² Cynthia Milton further deemphasizes the dominance and coherence of the Bourbon state in reforming colonial society. Examining the shifting meanings of poverty in Quito, she demonstrates that state agents and institutions failed to speak with a unified voice on matters of urban poor relief. Instead, the state was inconsistent, local populations resisted state measures, and "the ways by which colonial actors engaged with the state actually transformed the state."²³ In this way, newer studies push us to direct our attention away from triumphalist narratives of a reform-minded Spanish state to focus instead on the tangled politics of reform in the colonies themselves.

Among these studies of the Bourbon reforms, medicine has long been an overlooked theme, which is especially surprising in the case of late colonial Peru, where doctors and other groups battled over medical institutions and articulated competing visions of reform. In Lima, the reform of medical practices served as a key means by which prominent creoles in particular could engage the agenda of the colonial state while self-consciously asserting their own expertise as intellectual and political leaders within the colony. Other sectors of society, among them Church officials and patients themselves, also intervened in the development and implementation of medical reforms. Their efforts to engage local elites and Spanish bureaucrats on medical matters resembled the processes by which colonial subjects debated, contested, and transformed other social policies elsewhere in Latin America. As Arrom has rightly shown in one such case, cultural dependency models are of little value for understanding the Bourbon reforms. Rather than emphasize Spain's role in crafting the reforms, the complexity of local contexts in the colonies requires that Spain be de-centered and the reforms imagined "as part of an experiment conducted simultaneously on both sides of the Atlantic—and one to which

the colony contributed substantially.”²⁴ This is certainly true of efforts to address Peru’s population crisis.

Given Arrom’s framework for the study of the Bourbon reforms, it is possible to see how creole doctors in Peru deliberately shaped, and at times distorted, perceptions of who had developed medical reform measures and who was in charge of their implementation. Although Spanish authorities saw themselves as orchestrating medical reforms from overseas, creole physicians in particular claimed as their own the project of improving health and increasing the colony’s population. Drawing on and critiquing reformist measures issued from Madrid and Aranjuez in the 1780s to promote disease prevention, creole physicians reshaped the work of peninsular authorities to better correspond to local political, social, and environmental contexts. In addition, such doctors created new reform measures to address problems beyond the scope of the Crown’s stated plans. In implementing and publicizing those plans, they attempted to make Lima a center for medical innovation. In essence, creole doctors attempted to carry out the medical modernization of Peruvian society and make themselves, not Crown officials, the champions of the colony’s regeneration.

Claimed by creole doctors and initiated supposedly to be a means of bringing about progress in Peru and making the colony more useful to Spain, this late colonial medical campaign differed substantially from other Bourbon reform movements. In particular, it required rethinking the hierarchy of professions in the colony and elevating the status of creoles practicing those professions. For decades, creole populations in particular had expressed ambivalence about their complicated, subordinate status under the new political practices of the Bourbons. At one level, by embracing the Bourbons’ reformist spirit, they demonstrated loyalty to the Crown and the desire to refashion the colonies for Spain’s benefit. At another level, the Bourbon reforms themselves systematically reinforced the position of creoles as unequal colonial subjects by restricting their ability to fill government posts and by concentrating power in the hands of peninsular authorities. As a means of challenging this marginal position, creole physicians became clear proponents of what Jorge Cañizares-Esguerra, writing about intellectuals and natural philosophers elsewhere in the colonies, has described as creole patriotic science.²⁵ Portraying themselves as local experts in the reform of the colony through medicine became a means by which creoles could challenge and transcend the stigma they confronted in political life.

Despite the contributions Cañizares and other have made to our un-

derstanding of what creole patriotic science encompassed, it appears that medicine was initially an unlikely and poorly suited profession from which to conduct this kind of campaign. For much of the Hapsburg period in Spanish America, physicians had not been considered high-status members of the professional classes. As John Tate Lanning has explained in his seminal work on the *protomédico*, or medical examiner, the profession of medicine in the New World tended to be a profession of last resort, which children of the upper classes pursued only if they had been unable to gain an education or position in a more prestigious field, such as law.²⁶ In Peru, however, physicians challenged and rejected the negative image of their profession in the eighteenth century. They persecuted black and mulatto surgeons as a way of establishing clearer professional boundaries and reinforcing their own status as members of an overwhelmingly creole and peninsular Spanish profession. They developed concrete reform measures as the Bourbon Crown placed increasing emphasis on applying “useful knowledge” to the tasks of intensifying colonial labor output and refashioning colonial subjects. Arguing that formal medicine constituted a kind of “useful knowledge” with the potential to transform societies and economies by improving health and increasing populations, physicians campaigned to spread medical training and expertise throughout Peru. In doing so, they also self-consciously sought to reinvent themselves as patriotic, high-ranking members of the colonial political elite, who were central to reshaping and redefining the colonial project. They became determined to show that they were anything but provincial. In doing so, they demonstrated just how far the political logic of the Bourbons had transformed the status of professions in the colonies.

The professionalization of doctors, however, also impinged on the authority and domains of other groups in Peruvian society. The role of Church officials, religious brotherhoods, and other corporate groups in particular quickly proved complicated with regard to medical reform matters. Scholars of the Bourbon period have traditionally characterized representatives of the Church as defenders of a traditional social order.²⁷ Although it is tempting to adopt the simplified, reductive framework of the “modernizing” secular versus the “traditional” sacred in discussing the Bourbon period, different sectors of the Church in fact took radically different positions with regard to medical reforms and the limited form of secularism that creole doctors advocated. In Lima, the upper echelons of the ecclesiastical hierarchy tended to embrace and promote the reform efforts of Peru’s medical elite, and the archbishops of Lima between 1790

and 1820 offered numerous public declarations of their support.²⁸ But at the level of local parish priests, religious orders, and lay brotherhoods traditionally charged with the administration of hospitals and the care of the sick, creole doctors generated through their reforms discontent at best and open resistance at worst. At one level, this resistance stemmed from territorial and jurisdictional disputes, that is, competition for posts and questions about the preservation of traditional privileges (*fueros*), which granted such groups control over hospitals and other institutions. At another level, however, such disputes grew out of conflicting notions of piety and fears about the consequences of medicalizing hospitals and modernizing the healing arts. At the heart of these battles were widely varying beliefs about medicine, religion, and society, which corresponded to the larger philosophical differences that formed the foundations of Hapsburg and Bourbon colonialism.

The issue of piety deserves special mention here as a factor that shaped the outcome of medical reforms and that was related to broader Bourbon attempts to reform charity and modernize the colonies. Debates about piety and charity in particular fueled battles within institutions and caused Peru's colonial medical reforms to be different from those in British colonial societies.²⁹ As other historians have shown, in the second half of the eighteenth century the state intervened in the organization of charity, forming in the colonies institutions of beneficence that had the effect of "usurping in part the role of the church and supplanting more informal and spiritually based acts of charity (*caritas*)."³⁰ Although this new approach did not transform Lima's hospitals, the rhetoric of state-organized beneficence did influence debates about piety and charity within their walls. Furthermore, central to conflicts over piety and charity in the case of medical reforms was the issue of how to reconcile the everyday practice of piety with the introduction of new medical customs that hindered its execution. In particular, the requirements of medicalization in hospitals and the need to regulate and render religious rituals hygienic challenged long-standing notions of what constituted pious behavior and care for others. For many of the brotherhoods that staffed Lima's hospitals and those of the provinces, the purpose of such facilities was to provide relief from suffering and care for the souls of the sick in anticipation of the afterlife. Attempts to redefine the purpose of hospitals in favor of curative treatments, rehabilitation, and the creation of healthy subjects thus provoked controversy. They challenged long-standing religious explanations of the hospital's pious, charitable mission and displaced the brotherhoods' control over hospital

affairs. In this way, struggles over the meaning of piety must be seen as intertwined with and inseparable from issues of competition for authority and control of institutions.

In attempting to use Bourbon-inspired medical reforms to increase the colony's population, however, doctors and government officials also experienced and confronted resistance from ordinary colonial subjects. These groups believed that attempts to regulate ritual in the interest of public hygiene imperiled popular expressions of piety. Reformers quickly encountered the unwillingness of such groups to support new standards, particularly with regard to burial practices, since many of these populations viewed healing and dying through a religious lens. Doctors saw the prohibition of burials in churches and the banning of extravagant funeral rituals as crucial for preventing the spread of diseases caused by the infectious airs escaping from cadavers. For much of the population of Bourbon Lima, however, such practices reflected a strong belief in baroque forms of external piety, which they saw as necessary to facilitate the soul's escape from purgatory. Concerns about "dying well" thus came into conflict with concerns about preventing deaths and improving health. Together, they revealed the limited ability of the Bourbon medical reforms to transform popular beliefs and rituals.

Despite creole physicians' grandiose rhetoric and bold claims, the story of Peru's colonial medical reforms is not a tale of triumph and success, nor is it a glorified tale of colonial benevolence toward "conquered" subjects. In this way, it is a story typical of what the Bourbon reforms became known for: mixed outcomes and the failure to rehabilitate or improve colonial subjects. Reformers' efforts failed to bring about the improvement of health or the professionalization of doctors in society, and in many cases their work exacerbated social tensions and reinforced forms of exploitation. Initiating most of their reform measures in a period of heightened fears about the lower classes, Peru's medical reformers faced resistance and challenges from many different sectors of society. Moreover, by framing their work as part of a larger process of modernization and secular reform carried out in the name of progress, Peru's creole physicians attempted to redefine the roles of other groups in healing. The specific reform measures they undertook would fall apart after Peru achieved independence from Spain. Before arriving at that point, however, creole physicians would expose key tensions in colonial society by reaching deep into the daily lives of other colonial subjects.