

Introduction

In the summer of 1787, the priest Nicolas Calvo lay suffering in his bed from a serious illness described simply as "malignant dysentery." We know this from the ex-voto he had commissioned to honor the Virgin of Loreto, to whom he attributed his miraculous recovery. His ex-voto opens for us a window onto a part of daily life rarely visited by historians of colonial Spanish America. This is the world of the sick-room, both a physical space abounding with strange tonics and brews, bleedings and leeches, curanderas and barber-surgeons, and saints and virgins, as well as a cultural space complete with its own structures of meaning. This particular ex-voto is especially revealing of the comfortable relationship between divine and rational medicine, two seemingly opposed systems of thought, which, in the disease-laden milieu of eighteenth-century Mexico, tended to complement each other. It shows that even men of religion such as Nicolas Calvo did not entirely trust their health to God. An impressive group of *facultivos* has been called in to assist him, their erudition and status displayed in their clothing, especially in the long cape traditionally worn by the university educated physician, and in the potion bottles and writing instruments pictured on the table beside them. Ultimately, divine medicine wins the day, as it does in all ex-votos, but in this one the earthly practitioners are openly in awe of the Virgin's healing powers (at least according to the ex-voto's creator), admitting great admiration for such a quick recovery under such hopeless circumstances. But what intrigues the modern viewer most is not so much this friendly competition between divine and rational medicine, but the tiny bit of detail given about the priest's physical condition: "gravely ill from malignant dysentery . . ." "some of the tissue of the last intestine had separated," a sign the physicians seem to interpret as certain death. This fascinating fragment of information hints at systems of thought about the body that would be hard to decipher for those of us that use scientific medicine as a way to conceptualize our own bodily functions. My goal in this book is to explore this world of thought through the prism of the sick-room.

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A great deal of human suffering caused by illness has marked the history of Mexico through the millennia. Although much of this suffering has been inflicted on great multitudes of people in the form of epidemics, most of it has been the private, and unrecorded, suffering of individuals throughout daily life. Like caprices of nature, illness was arbitrary and inescapable, and people of every age group and social rank moved through life surrounded by its troubling images. Everyone could expect to be assailed, from early childhood on, by a sequence of diseases and disorders, some of them agonizingly painful, and many of them fatal. That morbidity and mortality were high in Mexico's past is supported by a variety of sources. The bioarchaeological record shows that precontact Mexicans were not as healthy as once thought, revealing instead a population that suffered from frequent infection and malnutrition. Both the Mesoamerican and Christian pantheon of gods and saints, mirrors of

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contemporary anxieties, were created to appeal for divine succor from a vast assortment of afflictions. And so much of the writing of the postconquest era—religious texts, *relaciones*, natural histories, as well as personal letters—reveals an obsession with illness.

One reason death and illness loomed so large in people's minds was that Old World epidemic diseases found very receptive hosts for their pathogens in the virgin-soil populations of the New World. Demographic historians and epidemiologists have focused a great deal of attention on these epidemic diseases, understandably so in view of the tremendous mortality and social dislocation they caused. But an emphasis on epidemics alone distorts our perception of the illnesses that people of the past suffered from in more ordinary times. Other diseases, although not carrying the dramatic impact of severe pestilence, were just as significant in the daily lives of individuals. Perhaps even more interesting for the historian and relevant to the people she studies were the illnesses that did not kill. For every fatal disease, dozens merely disabled, caused pain and discomfort, and disrupted daily lives. People suffered from, and lived with, a multitude of ailments and disorders that today are easily corrected or cured. Maladies of the gastrointestinal track, respiratory problems, eye diseases, dental caries and abscesses, internal parasites, constipation, hemorrhoids, kidney stones, and every sort of skin disease imaginable were all common complaints. Many women, in addition, endured painful gynecological problems caused by multiple and difficult childbirth. And exceptionally large numbers of the physically disabled, blind, and deaf—victims of congenital disorders, dietary deficiencies, infectious disease, and frequent accidents—constituted a common feature of the social landscape.

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Why was sickness so ubiquitous? Clearly, the inadequacies of medicine before the nineteenth century contributed to the high rates of illness. Doctors and other caregivers did not fully understand the concept of contagion and had no knowledge of sepsis, immunization, or antibiotics. Far more important, however, were the living conditions of the time. Throughout Mexico's history, the extremely unequal distribution of wealth left most of the population with insufficient access to the basic necessities of housing, clothing, and food. Periodic famine and chronic malnutrition provided a perfect environment for the diffusion of disease, as did the deficiencies of collective and personal hygiene. Those living in urban settings were especially susceptible to falling ill. Water supplies were often contaminated by human and animal wastes, and the accumulation of garbage created an ideal situation for disease-carrying rodents. Such conditions allowed a whole host of human parasites to thrive—not only rats, fleas, and lice, but a variety of microorganisms and worms as well. Even the wealthy could not escape these problems entirely.¹ Yet despite the ubiquity of disease and medical knowledge that was little advanced, this study will show that colonial Mexicans were anything but passive when it came to personal health.

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The medical frameworks people use to make sense of their ailments are deeply rooted in their understandings of the relationship between their own physicality and the material conditions in which they live. Everyday beliefs about health and sickness then become basic features in

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the culture of everyday life, linked in countless ways to the material existence of ordinary people—the foods and drinks they consume, the clothes they wear, the daily habits of grooming, the streets they walk, the houses they live in. If one of the goals of historical research is to get as close as possible to the textures of everyday life of worlds we have lost, then some appreciation of the beliefs people had about their health is essential, especially because the subjects of our historical gaze lived in an age when death rates from infectious disease were so high and life expectancy was so low.

This book explores the cultures of health and illness that were formed amid the high mortality and morbidity rates during the colonial years of Mexico's history. It is concerned first and foremost with the beliefs lay people had about their health: How did they identify and explain their illnesses? Did diseases primarily come from God? Or were there things in the everyday world that could make people sick? What did people imagine to be happening inside their bodies when something went awry? What kinds of things could people do to stay healthy? Did lifestyle effect one's health, and, if so, how? These are the kind of questions that guide this research. **6**

The examination of the illness experience of people long gone is, of course, a fascinating topic, but it also is a rather imprecise enterprise as well, as an infinite variety of circumstances contribute to shape an individual's experience. To simply contemplate the myriad factors affecting just one person's encounter with disease—for example, his or her personal character, the belief systems of the period, the efficacies of the current medical system, the severity and length of illness, access to medical care, and the level of the individual's material life—would probably be enough to discourage even the most ambitious historian, even if she could uncover enough evidence. Outside of an individual's particular situation, broader political and ideological aspects enter into the picture as well. In the case of Mexico, these are fairly easy to identify but harder to flesh out at ground level. Invading Spaniards in the sixteenth century attempted to impose their worldview on the conquered peoples of Mesoamerica—present-day Mexico, Guatemala, and El Salvador—insisting on European forms of settlement and local government, committing themselves to the spread of Christianity, imposing their own notions of racial identity and class, and changing forever native patterns of exchange and consumption. European ideas about the body—resting heavily on the medical concepts of Hippocrates and Galen—were an important part of this imported worldview. The native population had their own notions about disease and the body, of course, concepts that had evolved throughout the various urban-based cultures of Mesoamerica, which, along with the Andes, was one of only two areas of high civilization in the Americas before the European conquest. Precontact medicine combined sophisticated empirical skills, especially in the fields of obstetrics, wound treatment, and herbal remedies, with elaborate forms of shamanism, a practice that naturally conflicted with Christian ideas and their enforcers. The European conquest and, later, its consolidation and expanding settlement meant that Spanish medicine, as practiced by formally educated and examined practitioners, was the only form of healing to be legally recognized by colonial authorities. But reality on the ground—ridiculously low **7**

numbers of "qualified" physicians and surgeons coupled with massive numbers of people needing medical attention—made this impossible. Consequently, a whole host of irregular curers, most of them with some empirical know-how, but many charlatans as well, flourished in the cities, towns, and countryside of New Spain. To approach the illness experience of colonial Mexicans, then, we need to keep in mind that our analytical spectrum incorporates an astonishingly wide range of belief systems and social experience. Such a broadly cast net is unavoidable in an exploratory study such as this one.

Undoubtedly, some readers will find this focus on the ailing bodies of historical actors gloomy, "one long bellyache, a primal scream against the atrocities perpetuated by Nature and by social oppression."² Others likely will argue that such a topic is historically insignificant because human beings, at all places and times in their evolution, have suffered from disease and thus to stress this is to say nothing particular about a historical period. But to exclude the experience of the individual, as so much of orthodox medical history has done, seriously depersonalizes illness, reducing it to a black box on a histogram. It also tends to minimize the complexity disease has as a social phenomenon and, by extension, a shaper of history. "Disease," writes one historian,

Is at once a biological event, a generation-specific repertoire of verbal constructs reflecting medicine's intellectual and institutional history, an occasion of and potential legitimization for public policy, an aspect of social role and individual—intrapsychic—identity, a sanction for cultural values, and a structuring element in doctor and patient interactions. In some ways disease does not exist until we have agreed that it does, by perceiving, naming, and responding to it.³

At its most basic level, illness colors everyday experiences by way of the physical suffering and mental anxiety (brought on, no doubt, by our innate fear of death) it produces in individuals and communities.

The study of health, illness, and medicine in Mexico contains a curious discrepancy between what we know about lay conceptions of medicine in recent times and those in past centuries. Anthropologists in the twentieth century, especially since the 1960s, have produced a plethora of case studies that attempt to map the ethnomedical systems of contemporary Mexican communities.⁴ These studies show that many Mexicans continue to filter their observations of the body through conceptual frameworks inherited from their colonial ancestors. Curanderos and other traditional healers still treat illnesses such as evil eye, *susto*, and soul loss through a combination of ritual and herbal remedies, and popular beliefs about the curing powers of saints and local virgins continue to be widespread.⁵ Age-old empirical knowledge easily coexists alongside modern medicine. Although caregivers in the home today will utilize aspirin and antibiotics, they are also as likely to incorporate "the principle of opposites" in explaining and treating sickness, thus stipulating that a "hot" remedy be used for a "cold" illness, or vice versa. Foods are thought to have "hot" and "cold" qualities: honey, coffee, and beef (especially from a bull) are hot, whereas turkey, rice, *jícama*, and limes are cold.⁶ Both Spanish and Mesoamerican medicine used the Hot-Cold dichotomy in precontact and colonial

times to diagnose and treat illnesses, so it is difficult to untangle the origins of these folk practices today.⁷ As we will see in this study, however, the humoral medicine that Europeans brought to the New World provided a logical and simple framework on which both indigenous and popular Spanish curing practices could be hung.

Although much has been written about popular medical concepts and practices in twentieth-century Mexico, work on their historical evolution has been less prolific. Scholars have been fascinated, of course, with the extent and demographic consequences of epidemic diseases in Mexico's past, especially those of the sixteenth century, which were catastrophic for the native population.⁸ But most of the published historiography focusing on medicine has consisted of biographies of doctors and studies of medical institutions. Some of these studies have documented the founding and administration of several of the many hospitals that were established by religious groups and the Spanish Crown in early years of the colony. Other institutional studies have included work on the Protomedicato, the medical board responsible for overseeing the education and licensing of medical practitioners in Spain and her colonies.⁹ Very recent studies include one that skillfully traces the development of pharmaceutical practice from art to science in the seventeenth and eighteenth centuries and a collection of essays on various topics relating to the practice of medicine in New Spain.¹⁰ Precontact medicine has received serious scholarly attention, especially from Alfredo López Austin, whose meticulous study of Nahua concepts of the body was based on his close reading of the Nahuatl language and colonial indigenous sources.¹¹ And, finally, a couple of excellent studies have begun the process of looking at the everyday world of colonial lay medicine. Both focus on supernatural beliefs and practices and are based on extensive work in the vast collection of inquisitional records, which document the prosecution of curanderos during the three centuries of Spanish rule in Mexico.¹² All of these works form an indispensable background and basis for the present study, as does much of the excellent, and much more extensive, medical historiography done on early modern Europe cited throughout this book.

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What kinds of historical sources does one dig through to find out what people of past centuries thought about health and illness? The most fertile documents have been those in which lay people mention their own illness experience firsthand or that of family members. Personal letters are rich with such incidents, although it has been difficult to find many of them for colonial Mexico. For the present study, I have used two collections of letters. Enrique Otte's superb compilation of letters written by Spanish emigrants in the sixteenth century to family and acquaintances in Spain contains fascinating tidbits for the researcher on many subjects, including health. Almost all of the letters mention health, at least in passing, and many describe experiences with illness, accidents, doctors, and the death of loved ones. The other collection consists of the personal correspondence of the Countess of Miravalle, a well-connected but indebted widow, to her son-in-law, Pedro Romero de Terreros, a wealthy mining magnate and the first Conde de Regla.¹³ In 1756, the forty-three-year-old Romero de Terreros married the twenty-three-year-old María Antonia, the Condesa's youngest daughter. Ten years and at least nine pregnancies later, María Antonia died, ending the close association

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between the Condesa and her son-in-law. The letters written by the Condesa during this decade-long correspondence, which are housed in the Archivo Manuel Romero de Terreros in Pachuca, Mexico, contain much commentary about the family's state of health and a great deal of health advice from the Condesa herself.

Sickness and health are also frequently mentioned in contemporary writings such as travelers' accounts, correspondence of religious and political officials, chronicles, newspapers, and especially in the *Relaciones Geográficas*. Sometimes the authors are eyewitnesses to an illness experience, either their own or that of others. Antonio de Ciudad Real, who narrates the journey of Fray Alonso Ponce, a commissary-general touring Franciscan convents during the 1580s, describes, at times in vivid detail, Ponce's health problems and the efforts of others to relieve him.¹⁴ But mostly these writings yield information about lay health concepts by inference; comments on food and clothing, for instance, or climate and location are very revealing of how preindustrial peoples viewed the relationship between human bodies and the environment, a topic that we cover in depth in this book. In this regard, the *Relaciones Geográficas*, the questionnaire sent out by Philip II to take stock of his American possessions, contains an especially rich layer of information about Spanish etiology, gleaned from comments about such things as indigenous lifestyle, the geography and climate of Indian towns, and native remedies. In addition, *La Gaceta de México*, a newspaper published in the eighteenth century, offers an abundance of information about the health concerns of the day. Its pages are filled with the news of epidemics, announcements about new therapies and medicines, strange deaths, divine cures, and specialized practitioners advertising their skills. 13

Another source for exploring lay health concepts is the growing body of vernacular books on medicine emerging in sixteenth- and seventeenth-century Mexico. Works written by professionals may seem an unlikely place to look for lay perspectives, but for most of the early modern period the boundaries between professional and lay medical cultures are still so blurred that it is simply anachronistic to imagine them as the discrete realms they are today. Most educated people knew something about medicine, while formally trained physicians and surgeons drew on a widely shared empirical tradition. Several works directed at the layperson—home medical guides, or *recetarios*—were published in the colonial period, their authors citing the lack of doctors and pharmacies as important reasons for producing these books. The surgeon Alonso López de Hinojosos, whose book *Suma y recopilación de cirugía con un arte para sangrar muy útil y provechosa* was published in Mexico City in 1578, wrote this work for: "those that are outside of the city in mines and *estancias*, towns and remote areas, who lack the convenient remedies."¹⁵ Juan de Esteyneffer's *Florilegio medicinal de todas las enfermedades sacado de varios y clásicos autores para bien de los pobres y de los que tiene falta de médicos* was probably one of the most popular, and enduring, medical guides ever published for the layman. The Moravian Esteyneffer came to Mexico in 1697 as a Jesuit missionary and, although not formally trained as a physician, quickly gained fame for his knowledge of medicine. While working in the Jesuit missions of northern Mexico, he wrote the *Florilegio* to assist the missionary effort, which had few formal medical resources at hand. 14

Because the book is so reader-friendly—its chapters are laid out according to type of ailment, arranged in a logical head-to-toe order (thus, headaches come before disorders of the eyes, followed by those of the nose and mouth, moving downward through the body), its recipes easy to follow and make, using "simples," or single-ingredient remedies, and native ingredients whenever possible—it was a great success. After its first appearance in Mexico City in 1712, the *Florilegio* went through at least five other editions, the last of which was published in Mexico in 1887. Anecdotal evidence suggests that a few curanderas still find it useful: during the 1970s an anthropologist studying popular medicine in the Oaxacan backcountry encountered a *zapoteca* who consulted this book almost daily when the pueblo's sick came to her for advice. Her copy was a 1755 edition, lacking cover, title page, and author, and had been handed down through the family's female line for over two hundred years.

I found the colonial *recetarios* fascinating reading for several reasons. For one, they are a superb source for contemporary descriptions of the disorders of the day; within these pages we find lengthy descriptions of *dolor de costado*, *flaqueza del estomago*, *dolor de ijada*, *morbo gálico*, *obstrucción del hígado*, *mal de madre*, *apostemas*, and *tabardillo*. Several of them also provide important information about the causes of diseases, which, according to the authors, are frequently found in the environment and lifestyle choices of patients. Other colonial texts, not necessarily remedy books, but works of general health advice, are also quite revealing about how people conceptualized the linkage between day-to-day life and disease, in addition to being greatly entertaining to read.¹⁷ 15

And, finally, a word about ex-votos. These small votive paintings, which were (and, in some places, still are) left in shines as gestures of gratitude for divine intervention, visually complement the textual sources used for this study of lay medical cultures in New Spain. Like Nicolas Calvo's, with which I began this Introduction, all ex-votos have one common theme: surviving the calamities of everyday life. Spontaneous and formulaic at the same time, they combine visual representation—the suffering patient in sick-bed, the scene of an accident, the kneeling supplicant—with textual information about the life-threatening incident and the miraculous intervention of a beloved virgin or saint. Although the majority of historical ex-votos housed in museums, sanctuaries, and private collections are from the national period, when the practice spread to the popular classes, I have tried to limit my use of them here to those produced during the colonial years, even though they are less plentiful than the later ones and were generally commissioned by people exclusively from the upper and middle classes. What kind of information can we glean from these images? In a way they are very much like the personal correspondence of the time: individual testimonies, many of them offering up intriguing bits and pieces—like Nicolas Calvos's intestines—that force us to dig deeper elsewhere. But sometimes we get lucky and they contain a richly detailed narration of experience, as do a few of the ones I have used here. They also bring to our story a viewpoint that the medical guides do not; that is, they underscore the essential role that miracle healing played in this colonial world of sickness and suffering, an important phenomenon in an age 16

when the efficacy of rational medicine was woefully inadequate. And, finally, their visual quality somewhat enhances, I think, our link to the subjects of this study; pictures capture pathos in a way that textual evidence does not.

Perhaps it is already evident to the reader that our examination here is essentially an impressionistic one, a preliminary study on which future research can build. With few secondary sources to work from, this initial sketch of colonial Mexican sickness cultures simply seeks to lay a groundwork by exploring a variety of sources that might, or might not, yield promising evidence for other projects such as this one. It is for this reason that findings here are presented with such broad strokes. Nowhere in this dissertation do I address in depth those modes of analysis so dear to the hearts of specialists. Class, gender, and ethnic divisions are, of course, important determinants in how everyday life gets played out, but, at this stage at least, their role in shaping the variety of medical experience in colonial Mexico is not explored in any comprehensive way. I have begun, instead, with a more simplistic analytical approach by looking at, and at times comparing, European and indigenous notions of the body and its disorders. Because most of our knowledge about Mesoamerican culture comes from early colonial sources that focus on the Nahuas, those inhabitants living in the core regions of central Mexico by the fifteenth and sixteenth centuries, general comments about indigenous concepts and practices refer to that cultural group. Likewise, my efforts to understand colonial indigenous approaches to health are based almost entirely here on those views of precontact life that were recorded in the early years of Spanish rule. Another unavoidably vague generalization in this bird's-eye view is periodization. Although my intention here is to paint a broad picture of colonial life, I am well aware that people living in the 1570s had a different outlook and sensibility than their counterparts living in the 1770s. But these are differences that cannot be explored here. Thus, I use the term "colonial" in a very loose way, shamelessly lumping together ideas from the sixteenth century with those of the later years of Spanish rule. One thing did unite the beginning and end of the colonial period, however, and that is the vulnerability people felt toward the relentless roll of disease for which contemporary medicine had very few effective responses.

Although the real task for any study concerned with understanding the experience of illness is to identify the sufferers' patterns of thought and action, one must begin first with the basic circumstances surrounding health. The first two chapters of this book do just that. In Chapter 1, I examine the kinds of diseases and ailments people suffered from in Mexico, beginning with precontact Mesoamerica on the eve of the Spanish Conquest up to roughly the middle of the nineteenth century. In addition to the deadly diseases, which attacked in both epidemic and endemic forms, I look at the disorders people routinely lived with as well. Chapter 2 continues this examination with a look at the medical market place, that is, at the vast assortment of people dispensing medical services, licensed and unlicensed, that competed in an environment where the consumer remained largely in charge of his or her own care. We begin this exploration of healers with a brief look at the great variety of medical specialists that existed in precontact central Mexico. In the following two chapters, which form the core

of this study, I explore the notions people had about the origins of their diseases and staying healthy, and by extension, their ideas about how their bodies worked. The illness experience of colonial indigenous peoples is not accessible to us unless we know something about precontact practices and concepts. Chapter 3 therefore looks at Mesoamerican notions of the body, illness, and health, aspects of daily life that were deeply linked to religion in ways Europeans found difficult to understand or tolerate. Chapter 4 looks at these same concepts through a European worldview, specifically through the prism of humoral medicine on which Spanish notions of the body were based. Although European bodies also were subject to the mysterious workings of divine powers, they were far more vulnerable to the physical worlds in which they lived. Environment and lifestyle played critical roles in the health of those colonial inhabitants that lived within a European cultural sphere. In Chapter 5, I conclude this study with a bit more probing into the illness experiences of colonial Mexicans by, first, considering some of the ways health concerns textured daily life and, second, by briefly looking at how Mexican Catholicism shaped the encounter with disease.

Notes

Note 1: On living conditions in late colonial cities, see Martha Eugenia Rodríguez, *Contaminación e insalubridad en la ciudad de México en el siglo XVIII* (México: Dept. de Historia y Filosofía de la Medicina/ Facultad de Medicina, UNAM, 2000); Miguel Ángel Cuenya Mateos, *Puebla de los Ángeles en tiempos de una peste colonial: una mirada en torno al matlazahuatl de 1737* (Zamora: El Colegio de Michoacán, Benemérita Universidad Autónoma de Puebla, 1999).

Note 2: Roy Porter, "The Patient's View: Doing Medical History from Below," *Theory and Society*, 14 (1985), p. 182.

Note 3: Charles E. Rosenberg, "Framing Disease: Illness, Society, and History," in *Framing Disease: Studies in Cultural History*, ed. Charles E. Rosenberg and Janet Golden (New Brunswick, NJ: Rutgers University Press, 1992), p. xiii.

Note 4: See George Foster, *Hippocrates' Latin American Legacy: Humoral Medicine in the New World* (Amsterdam: Gordon and Breach Science Publishers, 1992); Isabel Kelly, *Folk Practices in North Mexico: Birth Customs, Folk Medicine, and Spiritualism in the Laguna Zone* (Austin: University of Texas Press, 1965); John L. Gwaltney, *The Thrice Shy: Cultural Accommodation to Blindness and Other Disasters in a Mexican Community* (New York: Columbia University Press, 1970); John M. Ingham, "On Mexican Folk Medicine," *American Anthropologist*, 72:1 (Feb. 1970), 76–87.

Note 5: See Bonnie Bade, "Contemporary Mixtec Medicine: Emotional and Spiritual Approaches to Healing, in *Cloth and Curing: Continuity and Change in Oaxaca*, ed. Grace Johnson and Douglas Sharon (San Diego: San Diego Museum Papers, 1994); Frank Lipp, *The Mixe of Oaxaca: Religion, Ritual, and Healing* (Austin: University of Texas Press, 1991).

Note 6: Foster, p. xv.

Note 7: The debate about the origins of the Hot-Cold dichotomy has engaged anthropologists for at least two decades, but the principle advocates of each side seem to be Alfredo López Austin, who argues for an American origin, and Geoge Foster, who claims these practices are legacies of Spanish humoral medicine. See Alfredo López Austin, *The Human Body and Ideology: Concepts of the Ancient Nahuas*, 2 vols., trans. Thelma Ortiz de Montellano and Bernard Ortiz de Montellano (Salt Lake City: University of Utah Press, 1988), pp. 270–82; and Foster, pp. 147–87.

Note 8: Enrique Florescano and Elsa Malvido, *Ensayos sobre la historia de las epidemias en México*, 2 vols. (México: Instituto Mexicano del Seguro Social, 1982); Alfred W. Crosby Jr., "Conquistador y pestilencia: The First New World Pandemic and the Fall of the Great Indian Empires," *HAHR* 47 (1967), 321–37; Alfred W. Crosby Jr., *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Press, 1972); Robert McCaa, "Spanish and Nahuatl Views on Smallpox and Demographic Catastrophe in Mexico," *Journal of Interdisciplinary History*, XXV:3 (Winter 1995), 397–431; Noble David Cook and W. George Lovell, *Secret Judgements of God: Old World Disease in Colonial Spanish America* (Norman: University of Oklahoma Press, 1991); Thomas M. Whitmore, *Disease and Death in Early Colonial Mexico: Simulating Amerindian Depopulation* (Boulder, CO: Westview Press, 1992); Shelburne F. Cook and Woodrow Borah, *Essays in Population History*, 3 vols. (Berkeley: University of California Press, 1971–9).

Note 9: Josefina Mureil, *Hospitales de Nueva España*, 2 vols. (México: Publicaciones del Instituto de Historia, 1956); David A. Howard, *The Royal Indian Hospital of Mexico City* (Tempe: Arizona State University, 1980); J. Joaquín Izquierdo, *Raudon, cirujano poblano de 1810: aspectos de la cirugía mexicana de principios del siglo XIX en torno de una vida* (México: Ediciones Cinecia, 1949); Joaquín García Icazbalceta, *Los médicos de México en el siglo XVI* (México: Imprenta de V. Agueros, 1896); Francisco Fernández del Castillo, *La cirugía mexicana en los siglos XVI & XVII* (New York: Squibb & Sons, 1936); Fernando Cortés Martínez, *Historia general de la medicina en México* (México: UNAM, 1984); John Tate Lanning, *The Royal Protomedicato*, (Durham, NC: Duke University Press, 1985); Luz María Hernández Sáenz, *Learning to Heal: The Medical Profession in Colonial Mexico, 1767–1831* (New York: Peter Lang, 1997).

Note 10: Paula De Vos, "The Art of Pharmacy in Seventeenth- and Eighteenth-Century Mexico," Ph.D. dissertation (University of California, Berkeley, 2001); Enrique Cárdenas de la Peña, ed., *Temas médicos de la Nueva España* (México: Instituto Cultural Domecq, A.C., 1992).

Note 11: López Austin, *The Human Body and Ideology*; see also Alfredo López Austin, "Cosmovisión y salud entre los mexicas," in *Historia general de la medicina en México*, Vol. 1, eds. Alfredo López Austin and Carlos Viesca Treviño (México: UNAM, Academia Nacional de Medicina, 1984); Bernard R. Ortiz de Montellano, *Aztec Medicine, Health, and Nutrition* (New Brunswick, NJ: Rutgers University Press, 1994); Carlos Viesca Treviño, "Prevención y terapéuticas mexicas," and "El médico mexica," in López Austin and Viesca Treviño, eds.; Carlos Viesca Treviño, *Medicina prehispánica de México: El conocimiento médico de los nahuas* (México: Panorama Editorial, 1986).

Note 12: Gonzalo Aguirre Beltrán, *Medicina y magia: El proceso de aculturación en la estructura colonial* (México: Instituto Nacional Indigenista, 1963); Neomí Quezada, *Enfermedad y malefacción, el curandero en el México colonial* (México: UNAM, 1989).

Note 13: Enrique Otte, *Cartas privadas de emigrantes a Indias, 1540–1616* (México: Fondo de Cultura Económica, 1993); Archivo Manuel Romero de Terreros, *Miravalles*, Pachuca, Mexico.

Note 14: Antonio de Cuidad Real, *Tratado curioso y docto de las grandezas de la Nueva España*, 2 vols., eds., Josefina García Quintana, Victor M. Castillo Farreras (México: UNAM, 1993).

Note 15: Alonso López de Hinojosos, *Suma y recopilación de cirugía con un arte para sangrar muy útil y provechosa* (México: Academia Nacional de Medicina, 1977), p. 77.

Note 16: Juan de Esteyneffer, *Florilegio medicinal de todas las enfermedades sacados de varios y clásicos autores para bien de los pobres y de los que tienen falta de médicos*, 2 vols., ed. Ma. del Carmen Anzures y Bolaños (México: Academia Nacional de Medicina, 1978), pp. 20–25, 31.

Note 17: Juan de Cárdenas, *Problemas y secretos maravillosos de las Indias* (Madrid: Alianza Editorial, 1988); Luis Lobera de Avila, *Banquete de nobles caballeros* (Madrid: Reimpresiones Bibliográficas, 1952); Cristobal Mendez, *The Book of Bodily Exercise*, trans. Francisco Guerra, ed. Frederick G. Kilgour (New Haven, CT: Elizabeth Licht, 1960).