CHAPTER TWO

Doctors, Bleeders, and Virgins

1

The origins of a medical marketplace lie in the sufferer's attempt to find an explanation for his or her disorder and a means to restore health. Indeed, one might argue that the search for relief constitutes the historical basis for the healer's unique social role. As human populations developed more complex social systems, medical expertise became the vocation of particular individuals with specialized knowledge. Although domestic medicine remained the first line of defense against disease, it was often augmented by "medicine men, diviners, witchsmellers, and shamans, and in due course, by herbalists, birth-attendants, bone-setters, barber-surgeons and healer-priests." Social complexity created opportunities for enterprising practitioners to peddle their goods and skills as demand for medicines grew and new forms of healing evolved. Moreover, the need to rationalize and theorize sickness became greater as patients demanded that healers put a name to their pain and suffering. In other words, the rise of complex societies created the right conditions for the growth of medicine as a belief system and an occupation.[1] Leaving the belief system of medicine to the following two chapters, the present one continues to look at the day-to-day reality of sufferers, this time with a focus on the types of medical services that were available to them, first in Postclassic Mesoamerica, and then in the colonial world of New Spain.

2

What did people of past centuries do when they became ill? Drawing on a variety of systems, their responses to sickness were diverse and their choices were dictated by such factors as perceived seriousness of illness, cost and availability of care, distance from medical expertise, and past experience. Most people, at least in the initial stages of an illness, relied on the time-honored art of domestic medicine. The first level at which sickness is recognized, defined, and treated is at home, in consultation with family members, close friends, and neighbors. Although the role of domestic healing has diminished greatly with the professionalization of medicine in the twentieth century, in earlier times it constituted the bulk of health care, for even when outside advice and treatment were sought, the nursing of the patient usually took place at home. The primary providers of this health care were, most likely, local women—wives, mothers, grandmothers, daughters, and friends—all sharing in a basic knowledge of common ailments and popular remedies. Through the centuries, the basic repertoire of domestic medicine has always included of a hodgepodge of empirical and supernatural measures: special brews made from plants or animal parts, changes in diet, the use of charms, talismans, prayers, and special rituals. Only when illness was deemed too complex for lay understanding was expertise sought outside the home.

3

The art and actual day-to-day practice of medicine in the early modern period was very broad and heterogeneous, especially if we compare it to our own time. Today, at least in Western societies in which professional medicine is more narrowly defined, care for the sick is provided by a relatively small range of medical institutions and practitioners who are similarly trained and socially homogeneous. In contrast, the medical marketplace in an early modern

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society such as colonial Mexico consisted of a diverse assortment of secular and religious healers. The familiar tripartite hierarchy of professionals—the physicians, surgeons, and apothecaries—who were trained in rational Galenic theories, practiced alongside an array of irregular and popular healers who worked within a vigorous and evolving system of traditional medicine: bonesetters, barbers, itinerant tooth-pullers, oculists, *sacadores de la piedra*, midwives, curanderos, witches, *titici* ("indigenous doctors"), nurses, priests, and nuns. Any view of medical practice as it really was in colonial Mexico must include all practitioners involved with dispensing care. Throughout this study, therefore, my definition of a "medical practitioner" includes anyone who was engaged in caring for the sick, anyone who appeared to sufferers themselves as medically skilled and experienced. The distinction that separates popular from sanctioned healers was less relevant to contemporaries than we moderns imagine; whether a healer was legitimate or not was often a question of licensing and lay in the eyes of the beholder. Charges of quackery more generally came from contemporary professional groups. Much of the surviving historical record regarding medical practice in New Spain was generated by licensed practitioners in their efforts to check the proliferation of unlicensed empirics, also known as *intrusos*, for their "intrusion" into a supposedly controlled field of medicine. This is not to say that unethical practices did not abound; they undoubtedly did, but opportunities for ethical misconduct existed at all levels. It is important, therefore, not to allow "the special pleading of contemporary pressure groups to lead the historian into undervaluing the activities of arbitrarily defined sections of the medical community."[2]

4

That the early modern medical landscape was such a diverse place is understandable when we consider the varied forms of contemporary medicine. For one thing, most people believed, in varying degrees, that the causes and cures of disease emanated from both the natural and supernatural world. This led to a proliferation of healing strategies and the specialists who hawked them. Many healers, especially those who viewed medicine through its Hippocratic lens, treated patients primarily using the physical properties of natural substances—plants, foods, and animal parts—along with time-honored therapies such as bleeding and purging. Others promoted their unique knowledge of the destructive and restorative actions of divine entities, tapping into supernatural zones through incantations, charms, offerings, and hallucinogenic drugs. In practice, most practitioners combined the elements of rational and divine medicine; university-trained doctors acknowledged the powerful role played by divine providence in any illness, whereas indigenous healers almost always included physical remedies in treating their patients—the use of tobacco, for example, was common, as was bathing and purging. In addition to the flesh-and-blood healers on the ground, a cult of saints as healers flourished throughout New Spain, generating a hierarchy of spiritual figures who specialized in miracle cures for certain ailments. Commonly, these divine members of the medical marketplace—the virgins and Christ figures that became important locally, and some, such as the Virgin of Guadalupe, throughout the viceroyalty—were the last to be appealed to in the "hierarchy of resort," an indication of desperation when other earthly measures had failed.

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Diversity in the medical marketplace also must have been invigorated by the limited efficacy of contemporary therapies. Because no single group of practitioners could reliably cure better than another, people tended to shop around. The domain of medical knowledge, especially in the sixteenth and seventeenth centuries, had not yet fused into the two distinct spheres that would later emerge in the nineteenth and twentieth centuries: the scientific, print-culture knowledge of the educated and, later, the highly specialized professional, in contrast to the traditional, oral-based folk medicine of the lower orders. Rather, multiple modes of medicine existed simultaneously, overlapping and competing for authority. Although one might be hard pressed to characterize this as a pluralistic arena of medical discourse, medical information did flow across divisions of class and gender. The exchange of medical advice up and down the social ladder makes sense in an age when the threat of disease, disability, and death was felt by all. In her work on sixteenth-century England, Margaret Pelling has written that the perils to life and limb were not equally shared by all groups but enough so to bridge social divisions and to create something like a "common sense of human frailty." **5**

> Such fears, it should be stressed, were leveling without being democratic. Social barriers remained intact, but networks of information about cures and practitioners ramified across divisions of gender, age, and class. When it came to illness, a Privy Councilor could learn from his laundress, a husband from his wife, a philosopher from an old woman, a gentleman from his servant, . . . This did not imply real or lasting tolerance, nor would one party to the exchange of information necessarily refrain from taking advantage of the other. However, something about the imperative to communicate on such matters was recognized by all parties, and proved a major obstacle to attempts by medical corporations at restriction and regulation.[3]

Just as in early modern England, the menace of disease in colonial Mexico stimulated all sorts of activity to counter sickness. Its medical marketplace was a multifarious and intricate place, so it is difficult to untangle its layers, especially over a distance of many centuries, but some general observations should be kept in mind as we survey the medical landscape of New Spain. The polarities we tend to look for in more modern medical systems—professional versus lay, literate versus oral, secular versus religious—did not begin to form in Mexico until the late colonial period, and only then in urban areas. This is not to say that competing systems did not exist. They did, but the boundaries between them were much more fluid than we would find today between, say, faith healing and biomedicine. **6**

In this chapter, I set out to describe the variety of healers that comprised the medical marketplace in New Spain. Because native Mexicans—the largest segment of the population until the last part of the colonial period—bring their own distinct healing traditions into the mosaic of colonial practices, I begin with a brief look at what historical sources tell us about medical practitioners before the conquest. For New Spain, I turn, first, to the familiar tripartite of formally educated medical professionals: the doctors, surgeons, and pharmacists —distinct categories that don't hold up in the day-to-day reality of a severe shortage of such practitioners on the ground. The majority of the population received primary care not from **7**

formally trained and licensed physicians, but from our next large, and rather amorphous, group: the barber-surgeons, midwives, and curanderos—empirically trained, and practically all of whom practiced outside the law. The chapter ends with a focus on the Church's role in providing medical care and solace through the establishment of hospitals and the promotion of a cult of saints with miraculous healing powers.

Healers in Mesoamerica

8

Scholars of Mesoamerican culture have been more successful in identifying the basic ideas that underlay Nahua medicine than they have been in learning about its actual day-to-day practice. This failing is one of historical sources, not scholarship. With very few exceptions, everything we know today about ancient Mexican medicine comes from documents that were compiled by Spaniards after the fall of Tenochtitlan in 1521. The discovery of the New World aroused an enormous amount of interest in Europe; the accounts of fact-finding expeditions were mixed with fantastical stories of monsters, savages, and mythical animals. Of particular interest were reports of American medicinal plants and substances, stimulating European chroniclers to compile herbals of the new materials. In New Spain, the two major works of this sort, Francisco Hernández's *Historia Natural de la Nueva España* and Martín de la Cruz's *Badianus Codex*, stand alongside Fray Bernardino de Sahagun's encyclopedic work on preconquest life as the major sources on Mesoamerican medicine.[4] The shortcomings of these texts as historical records—for example, the way the authors filtered native medicine through their own European medical concepts, or the way in which Sahagún cleansed much of his informants' information of its supernatural content—have already been discussed extensively by the many scholars who have used them. But it is worth reiterating the point here about how little interest Europeans actually had in the native practice of medicine; their interest lay almost exclusively in the medicines of the Americas and how they could be incorporated into a European medical complex. Consequently, the chroniclers are mostly silent on the native dispensers of these drugs. The healing strategies of native doctors mingled the sacred with the rational much more extensively than anything with which European authorities were comfortable; therefore, much of the interest in them was limited to recognizing and extirpating the idolatry in their practices. Hernando Ruiz de Alarcón's *Treatise on Superstitions*, written in the early seventeenth century specifically for this purpose, gives us some idea of what native healers were doing a hundred years after the conquest, but because he is exclusively concerned with eradicating paganism, his exposition of Nahua medicine tends to overlook empirical techniques, centering his attention, and scorn, on the "superstitious" incantations used by indigenous curanderos.[5]

9

The most thorough colonial source from which scholars have assembled their impressions about Mesoamerican medicine, indeed about all aspects of pre-Columbian life, is the work of Sahagún. The *Florentine Codex* and its Spanish version, the *Historia general de las cosas de Nueva España*, contain two types of information about medicine.[6] In the sections in which

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Sahagún specifically intended to document Nahua medical knowledge, the information appears to be more deliberately self-censored than in other sections. Here the connections between illness and religion were deemphasized or left out entirely, leaving the impression of less supernatural involvement in Nahua medicine than there was in reality. But in other sections of the work, the answers to questions on different subjects spontaneously reveal information about the effects deities and those who manipulated magic had on health and illness, making it possible for scholars to cross-check and correlate them in order to flesh out more complex, holistic medical concepts and practices.[7] It is also from these sections that our sketchy notions of Mesoamerican healers—who they were, what services they offered, and where they fit into the social landscape—are derived.

10

In the highly evolved society of Postclassic central Mexico, the *tícitl* (*titici*, plural), a Náhuatl word we might loosely translate as "doctor," or "someone skilled in the art of curing," was no simple healer, at least in Western conceptions of that word. His function was a complex one in which he was required to apply his ample knowledge of the physical world in accordance with his understanding of the gods and the manner in which they intervened into human affairs.[8] The medicine of the Nahuas was much more entangled with religion than the medical knowledge emerging from medieval and early modern universities in Europe. Consequently, the *tícitl's* role combined sacerdotal functions with hands-on, empirically based therapy. Anthropologists have long argued that the tight link between religion and medicine—something found in most cultures throughout history—originates from the collective and personal anxiety humans experience as they face the threat of suffering and death that illness brings. For the Nahuas, this vulnerability was magnified by a sense of personal dependency nurtured in the rigid social structure created under Mexica rule. According to Aguirre Beltrán, each individual in this highly militaristic society was "subjected, from the first years of life, to rigorous disciplines which had the tendency to create in his [or her] personality a constellation of [behavior patterns based on the notions of] disobedience-punishment, obedience-gratification." These notions permeated all aspects of life, including medicine.[9] Thus punishment from any number of deities that populated the Mesoamerican universe often came in the form of illness. But the etiological beliefs of the Nahuas, a topic we explore in depth in Chapter 4, were not so simplistic, attributing all ailments to gods angry with human failings. Rather, the origins of illness were quite complex, including and often intertwining two types of causes:

> those that we would call natural—excesses, accidents, deficiencies, exposure to sudden temperature changes, contagions, and the like—and those caused by the intervention of nonhuman beings or of human beings with more than normal powers. For example, a native could think that his rheumatic problems came from the supreme will of Titlacahuan, from the punishment sent by Tlaloque for not having performed a certain rite, from direct attack by a being who inhabited a certain spring, and from prolonged chilling in cold water; the native would not consider it all as a confluence of diverse causes but as a complex.[10]

The extent of the *tícitl's* expertise, then, reached way beyond the parameters of medicine understood in the Western sense. **11**

Just what were the tasks of the *tícitl*? The native physicians informing Sahagún tell us that a good doctor is one that is "well informed, a good judge of the properties of herbs, stones, trees, and roots, someone experienced in cures." He also had to be proficient in the art of "setting bones, purging, bleeding and cupping, and closing wounds." Yet when Sahagún tells us that a bad doctor is one that "uses sorcery and superstitions in order to know how to make good cures," he is also describing a set of skills that every good physician in Mesoamerica would have had.[11] In fact, the medical knowledge of a competent *tícitl* would have been quite extensive, spanning both the supernatural and physical worlds. He would need to know, for instance, when and how individual gods provoke and cure disease; the inner workings of witchcraft and how to counteract its damaging effects; the functions of *tonalli* (an important animistic entity located in the head) and the effects of its loss on the body; the specific symptoms of numerous diseases; the properties of a myriad of medicines, and knowledge of the plants, animals, or minerals they come from, including where, when, and in what conditions to collect them and how to prepare them; and finally, be able to perform the essential rituals necessary for curing the sick.[12] Diagnosis consisted of identifying, first, where the illness was located in the patient's body, and, second, its cause. This process, by its nature, involved prognostication, a procedure that, although an essential component to medicine for the indigenous practitioner and patient alike, was later labeled superstitious by European witnesses. "By this fortune-telling they determine what the cause of illness may be, what the medicine will be, or whether none will be of any help."[13] The knotting and unknotting of cords, looking for signs in the water, the tossing of maize kernels, the measuring of the left forearm with the right palm, and the ingestion of hallucinogenics, such as *peyote* or *ololiuhqui* were all important tools in the process of diagnosis and prognosis.[14] Combined with special incantations and orations these types of actions employed throughout the therapeutic process were the standard ways in which the *tícitl* worked. **12**

The field of medicine was open to Nahuas of both genders. Unlike the European medical marketplace, where the official role of women in medicine was restricted to pregnancy and childbirth, in central Mexico women practiced general medicine openly alongside men. Of course, they worked as midwives too—*tepalehuiani*, "the one that helps"—but the name *tícitl*, and status that went with it, applied equally to women as to men.[15] In this sense, we might imagine the Nahua midwife as an integral part of the medical establishment, not someone on the fringe of official medicine like her European counterpart; those that solicited her services for an impending birth, above all, referred to her as *tícitl*, a physician.[16] Sahagún's description of "good" and "bad" *médicas* differs little from that of male physicians: " [she knows] well the properties of herbs, and roots, trees, and stones . . . knows how to bleed, administer purges, give medicine, apply ointments, palpitate what is hard in the body to make it soft, set bones, to cup and cure sores and gout, and diseases of the eyes, and to cut small tumors from them." She, too, was skilled in interpreting and manipulating the influence that supernatural **13**

elements had on the human body: . . . "from [one's] teeth she pulls worms, and from other parts of the body, paper, flint, obsidian (*navaja de la tierra*), removing these things, she says that she cures the sick, this being a falsity and notorious superstition."[17] It is interesting to note that in cataloging the tasks of female physicians, Sahagun's informants mention various forms of eye problems, suggesting that, together with childbirth, this might have been another area of medicine overseen exclusively by women. On this same note, it is not surprising that the list for male doctors includes an item—"*dar puntos,"* the stitching of wounds—that is clearly omitted in that of their female counterparts. In the warlike world of the Mexica, the *tícitl* would have been forced to be dexterous in the treatment of wounds, the repositioning of ears and noses severed on the battlefield. This type of activity and the site where it was practiced would have excluded the presence of women.[18]

14

Sahagún's sources have the most to say about female *titici* in their role as midwives. The Nahuas had considerable skill in the various techniques of obstetrics: they made use of numerous medications that induced and advanced labor, and produced abortions; they knew how to rotate a fetus that was not positioned correctly for a safe delivery; and they could remove a dead child (in pieces!) from the mother's womb, a last-chance effort to save her life.[19] Yet what emerges even more in the text is a sense of the enormous social importance that surrounds the birth of a child, especially a first-born, and by extension, the *tícitl*'s role as director of this process. The pregnant young woman is formally presented to the midwife's care —"she is placed in your hands, in your lap, on your back"—by her family with lavish and beautiful speech. As the physician takes charge of the pregnancy, she makes clear the "great dangers of death that lie in the interior of women" and warns the relatives to let nothing befall the expectant mother. The young woman should not "cry, or be sad, nor should anyone give her trouble," nor should she "work much, nor try to be diligent nor resourceful . . . nor run, nor tremble, nor have a fright of anything, because these things cause miscarriage." Along with these and many other earthly precautions, the *tícitl* appeals to the goddess of medicine, *Yoaltícitl* for a safe pregnancy and delivery. For the Nahuas, childbirth was something precious and sacred; the women who died giving birth to their first child were called *mochihuaquetzqui*, "valiant women," and their corpses were carried by the midwives to a grave in a special temple. So revered was this form of death that grave robbing was a problem. Soldiers believed these cadavers held unique powers; a finger from the left hand or some hair from the head brought them courage and strength when carried onto the battlefield behind their shield.[20]

15

In addition to the midwife, were there other medical practitioners in this Mesoamerican marketplace that specialized in particular therapies? Modern science today, at least in the West, has imposed an anatomical and pathological model of illness on the practice of medicine, so perhaps it is inappropriate to ask this question about a society that, lacking this worldview, could not possibly have had specialists in our sense of word, that is, practitioners trained in the management of diseases of one organ or system in the body.[21] Nonetheless, there does seem to be some indication that certain *titici* dedicated themselves to the

treatment of specific problems, although firm evidence that would show the how and why of this is scarce. In any event, we can explore briefly a few of them here. Those curers that caused a person's illness to manifest itself in objects and then extract them through some sort of physical manipulation, usually by suction, were called *techichinani, "*those that suck." The Nahuas believed that the removal of these objects—pieces of stone, obsidian, sticks, or paper—would initiate the curing process.[22] Regaining a lost *tonalli*, a curing technique used often on sick children, was entrusted to a skilled *tetonalmacanime*. The *tonalli*—"a force that gives a person vigor, warmth, valor and allows him to grow"—was essential to good health and its absence could cause sickness, even death. *Tonalli* loss, a phenomenon that we explore in Chapter 4, could occur from any number of things: the cutting of one's hair, a sudden fright, divine punishment, or intentional harm brought about by sorcery. The *tícitl* might diagnose this condition by placing "the child over the water, and if they see the child's face dark in it, as if covered by shadow, they judge as certain" the loss of his "fate and fortune." They also used the standard divination techniques of the day, the measurement with hands or the throwing of maize kernels in water, with their tendency to float or sink carefully watched.

16

Remedies for *tonalli* loss included the use of incantations and medicines that "warmed" like tobacco or *tlacopatli*, a plant used to cure illnesses associated with cold.[23] Another type of *tícitl* whose services might be solicited for his or her specialized knowledge of techniques connected with the supernatural world was the *paini*, "one who drinks medicine," that is, someone skilled in the use of psychotropic drugs. More specifically, these practitioners might be grouped within the broad category of *tlaciuhgue*, those that practiced the art of fortune-telling or divination, with the intent to know events in the future, the origins of an illness, or the duration of a lifetime. The most common drugs used by the *paini* were *peyote* and *ololiuhqui*, a very powerful seed that, according to Ruiz de Alarcón, "when drunk, deprives men of judgment." The psychotropic placed its user into a trancelike state, allowing him access to realms of reality that were closed to people in ordinary states of consciousness; there, among the multiple deities that influenced daily life in Mexico, answers might be revealed not only for health problems but also for the whereabouts of lost or stolen items as well. The *paini* did not always take the powerful drug himself, but might advise the patient himself how to do so, indicating "the day and the hour in which he is to drink it, and he tells him for what purpose he will drink it." Apparently, this type of medical service did not come cheap, at least according to Ruiz de Alarcón who says of the *paini* that he "is paid very well, and they bribe him with meals and drinks in their fashion."[24]

17

Evidence about further specialization in the medical field is quite sketchy. Illustrations in the *Florentine Codex* show various healers associated with specific ailments: the bonesetter, *tepoztecpahtiani*, for example, the bleeder, *teitzminqui*, or the one who cures diseases of the eyes, *texpatiani*. [25] In reality, we do not know if these are examples of specialized *titici*; or, more likely, if these terms simply refer to activities that any proficient *tícitl* would have been expected to perform.

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What does emerge from the sources, however, is a portrait of the Nahua physician as a person of stature and distinction in his world, a standing bestowed invariably on those who served as connection points between the gods and ordinary humans. Yet the common health care problems of everyday life also would have ensured that not all healers occupied such lofty positions, and therefore we should keep in mind the distinction between two groups of professionals: those who, trained in the temples, performed sacerdotal duties, and those who practiced the more manually oriented craft inherited from family elders. But even this latter group rated high social status. It is no accident that Sahagún, in his list of occupations, includes the physician among the artisans that the Mexica held most in high esteem (the others were the featherworker, the lapidary, and the goldsmith).[26] We also should note here that the condemnation of *médicos malos* found in these same texts, apart from the European objection to "superstitious" practices, surely include descriptions of what the Nahuas themselves considered to be "bad doctors," that is, the charlatans and the sorcerers who used their skills to inflict harm. The bad physician is "a fraud, a half-hearted worker, a killer with his medicines, a giver of overdoses, an increaser of [sickness]."[27] Likewise, the bad sorcerer is one who uses his or her considerable powers to harm and "damage the bodies [of others] with his spells, and deprives them of their judgement."[28] Unfortunately, the historical sources are silent on how those governing Nahua society dealt with these illicit practitioners. The same cannot be said, luckily, about the next phase of Mexican history, the period of Spanish rule.

Healers in New Spain

19

Although the outlines of a medical marketplace in Mexico on the eve of the Spanish conquest are barely perceptible, they become somewhat more apparent as one moves through the three centuries of Spanish rule. Here the sources are more plentiful. Early modern Spain was a remarkably bureaucratic society for its time and its administration of its American colonies likewise generated multiple layers of government and the corresponding shuffling of papers; codes of law were promulgated through Royal decrees, Pragmatics, and Ordinances, and lawsuits abounded, leaving an abundance of historical documentation. The practice of medicine did not escape this regulatory zeal. The New World's first Protomedicato, the royal institution that regulated medical practitioners in Spain, was established in Santo Domingo in 1517. In New Spain, a royal *protomédico* was quickly appointed by the newly established town council to control the rapidly increasing numbers of practitioners already operating in the vice-regal capital.

20

The regulation of medical care in New Spain followed closely along lines established in the mother country. During the fifteenth and sixteenth centuries, the practice of medicine in Spain was regulated more closely than any other European country at the time.[29] Although the Protomedicato was not firmly established until the fifteenth century, Spanish medical legislation had deep roots reaching back to the Middle Ages, when many regulations designed to hold practitioners accountable were first introduced. A doctor's claim to medical knowledge

he did not possess was considered a notably serious offense and fraudulent care that resulted in the patient's death could bring to the practitioner the same penalty as men who "kill treacherously" for "it is worse to poison a man than to stab him to death." The fears expressed in this legislation reflect the state of medicine at the time as much as they do the actions of healers. The wrong medicine or dosage could easily kill a patient. A surgeon might improperly use his knife or saw, or "burn his [patient's] nerves or bones so that he dies because of it." A "man or a woman" might try to make a woman pregnant with herbs but kill her instead.

21 Punishment for offenses such as these could be severe: a prohibition to further practice medicine, incarceration, or even death. Since the late Middle Ages, various Spanish monarchs required physicians and surgeons to demonstrate competence through examinations. Alfonso III of Aragon (1285–91) instructed the "learned and noble" to examine would-be practitioners in their "place of residence." A century later, John I of Castile (1379–90) named "*alcades mayores examinadores*" in conjunction with the "*médico primero*" of the royal household to form a body that examined such aspirants. In 1477, following Spain's unification, Ferdinand and Isabella created a central Protomedicato empowered to examine, not only physicians and surgeons but also midwives, bonesetters, apothecaries, dealers in aromatic drugs, and any other persons who "in whole or in part practice these professions"—men as well as women. The *alcades examinadores* also were given the right to try anyone for medical "crimes, excesses, and transgressions."[30]

22 Like other essential features of their culture, the Spanish brought their medicine with them early on in the conquest of the Americas. Just before Columbus's third voyage, Ferdinand and Isabella authorized the sending of "a physician and an apothecary and a herbalist and some instruments and sheets of music to while away the time of those people who are to be there."[31] Not long after Cortés conquered Tenochtitlan, a number of irregular healers, both locals and foreigners, began to stream into the city. Members of the newly established town council, the *cablido*, were informed of the "many persons, without being examined doctors and surgeons, [who] treat people, and because they do not know what they are doing except to relieve them of their goods, they kill some and many times leave others with many injuries and sickness . . ." Such a situation cried out for regulation. Thus, the cabildo appointed the first protomédico of New Spain in 1525 to oversee the regulation of medical practice and the precarious health of the city's inhabitants. From then on a succession of protomédicos demanded that practitioners show "by what right they practice."[32] The cabildo's right to appoint, and thus control, the protomédico might have been challenged by the crown in 1570 when the king appointed Francisco Hernández as special royal protomédico for New Spain. Philip II's instructions to the doctor consisted of two enormous tasks: first, to make a thorough survey of medicinal plants in the New World (he was supposed to move on to Peru after his time in New Spain, but, for reasons of health, he did not make it that far south), determine their curative properties, and collect samples and seeds to send back to Spain for

propagation; second, as protomédico he should oversee the examination and licensing of all physcians and surgeons, and the inspection of all apothecary shops within a five-league radius of Mexico City.

Whether Hernández found his commission too onerous to apply himself fully to both sets of task or was repeatedly foiled by the town council from carrying out the latter is not entirely clear. Hernández, however, appears not to have examined a single physician or visited a single pharmacy. Instead, his seven years in Mexico were spent singularly focused on compiling his great work, the *Natural History of New Spain*, in which he describes over 3,000 native plants, birds, animals, and minerals. The cabildo, therefore, continued its oversight of the regulation and discipline of medical practitioners until 1646 when the formal machinery of the royal Protomedicato was finally set in motion.[33] **23**

It is important to place the crown's efforts to control who practiced medicine and how in perspective. At least in theory, the power of the Protomedicato to shape the practice of medicine in New Spain was enormous. It alone was empowered to insure that the viceroyalty was cared for by qualified professionals; its charge was to eradicate the charlatans and casters of spells, the myriad curanderos, and most importantly, the countless unlicensed *empiricos* from the realm. In addition to its authority over the examination and licensing of all medical practitioners, it functioned as a tribunal, not only enforcing medical laws but adjudicating them as well. Every official action in the medical profession had to go through this body, including those pertaining to the production and sale of pharmaceuticals. Pharmacists were examined and licensed by them, and their shops, the *boticas*, were inspected on a regular basis by Protomedicato officials. But this power on paper was radically limited by conditions on the ground. Licensed physicians, surgeons, and pharmacists were woefully scarce at all times during Spanish rule. Querétaro, for example, had only two licensed doctors in 1787 to care for a population of 35,000.[34] Filling this gap was a whole spectrum of healers representing various medical traditions, from rational Galenic therapy to magically oriented medical beliefs. In Mexico City and other large towns, unlicensed practitioners flourished, and in the countryside they were dominant. As we shall see, colonial authorities themselves were mostly to blame for this shortage of legally sanctioned healers. The rigid social codes that dictated who could and could not study medicine reduced the pool of potential applicants to a handful. The structure of colonial government, too, made it difficult to get a medical license if one did not live in Mexico City, as licensing could take place only in the capital. Throughout the whole period of Spanish rule, then, the panorama of medical specialists consisted of a small number of university trained practitioners competing with a multitude of popular European and native healers. For convenience sake, this exploration of the medical marketplace examines these healers separately, but the artificiality of this will soon become apparent; the lines between the different sorts of practitioners was quite blurred, even among the licensed professionals. **24**

Licensed Practitioners

Physicians

For well-off city dwellers—the wealthy Spanish and creole families—there was an integrated pyramid of practitioners to choose from. At the top was the *médico* or university educated physician. In theory, médicos were concerned only with "internal medicine" such as fevers and epidemic diseases, whereas "external medicine," the treatment of wounds, broken limbs, and amputations, fell to the surgeon. Medicine in the sixteenth century was an integral part of science and philosophy, therefore its practitioners were part of the intellectual elite that disdained any association with a "mechanical" craft.[35] Medical education in New Spain, as in the mother country, stressed a rational orientation to matters of health and illness that appealed primarily to *gente de razón*, the "rational people" of the upper and middle classes. For the vast majority of New Spain's population—indigenous peoples, blacks, mestizos, mulattos, and poor whites—being sick continued to have a supernatural significance that no reference to the rational workings of the humors could fully explain. "For these people, eloquence and debating skills, philosophical argumentation and flawless quotations of texts sharpened through numerous examinations and *oposiciones*, meant little. Hippocrates had indeed come to the colonies, but he was known only among the educated elite."[36] **25**

Shortage of legal medical care was endemic throughout Spain's three-hundred-year-rule in the Americas. Colonial sources show that in 1545 there were apparently only four certified doctors in the entire capital of New Spain. One of them, Cristóbal Méndez, had recently been arrested by the Inquisition on charges of sorcery; another, Juan de Alcázar, was preparing to return to Castile. That left only the licentiate Pedro López and Pedro de la Torre, a man who had recently fled Vera Cruz on charges of practicing without a license.[37] Over two hundred years later, every city and town of importance in New Spain still suffered a shortage of licensed physicians. Between 1607 and 1738, the University of Mexico granted 438 bachelors' degrees in medicine, an average of 3.35 a year.[38] Such numbers fell well below the needs of the country. **26**

Why the chronic shortage of licensed physicians in New Spain? Like their counterparts in Spain, the colonial authorities greatly limited the pool of health care professionals eligible for certification by the Protomedicato. All prospective physicians and surgeons were subject to strict laws regarding their legitimacy and blood purity or *limpieza de sangre*. Such laws originated from Spain's recent and not-so-recent past. In late medieval Spain a large number of Jews and Moors were prominent physicians; they occupied important posts at the royal court, took care of clergymen, and worked as municipal physicians. After the Catholic Kings expelled the Jews in 1492, *limpieza de sangre* became a requirement for anyone desiring to practice medicine. Shortly thereafter, Moors and Moriscos were restricted from entering universities and thus prohibited from legally practicing medicine. It was this climate of racial and religious intolerance, especially during the late-sixteenth-century Counter-Reformation, that aggravated the already acute shortage of legal health care workers in Spain.[39] The meaning of *limpieza de sangre* took on new implications in the Indies. Statues of the **27**

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University of Mexico stated early on that no blacks, mulattos, *chino morenos*, or any kind of slave or former slaves were to be permitted to enter the university. Native Mexicans were equally unacceptable.[40] In addition, the geographical centralization of the Protomedicato in Mexico City—no regional offices or examine sites were ever set up during the colonial period—meant that even those lawfully trained in some form of the medical arts would have to make the long and costly journey to the capital in order to receive a license.

28

Given the critical need for qualified medical practitioners, it is surprising how long it took before medical education was established in New Spain. The *primera* chair of medicine, named in accordance with conical hours, was first created in 1578, almost three decades after the founding of the University of Mexico. Twenty years later, a second chair of medicine, *visperas*, followed. Students received two one-hour lectures per day in which professors dictated in Latin from a classical text in front of them; for the rest of the hour the lecturer explained the text, occasionally in the vernacular. This was a highly formalized curriculum that was purely theoretical. For four years, students read the works of Hippocrates, Galen, and Avicenna on humoral theory, temperaments, the nature of man, fevers, and pulse. In 1621, responding to a decree issued by Philip III, who wanted to improve medical education both at home and in the colonies, the University of Mexico founded two more chairs. One, *Metodo Medendi*, or therapeutic methodology, was based on Galen's text of the same name; the other chair was *Anatomía*, offering instruction in anatomy and surgery. Only then did the first university in the Americas fully qualify under Spanish law to train and graduate bachelors, licenciates, and doctors of medicine.

29

The legal requirements and process of acquiring the medical degree remained fairly stable from the sixteenth to the nineteenth century. By the time a man—women not having yet the legal right to higher education—had obtained the bachelor's degree of medicine, the *Bachiller de Medicina*, he had already spent eight years in the university, four earning the bachelor's degree and four studying medicine. After an additional two years of internship with an established physician, the candidate might present himself to the royal Protomedicato for examination. Because the bachelor of arts degree consumed the years that, in current American terms, would be the period devoted to high school, the Mexican student would be ready to enter medical school at about the age the modern student enters college. Thus, he could finish his professional training at the time the modern student graduates from college—in his mid-twenties—and be fully qualified to practice medicine. Two other degrees in medicine were possible, the licentiate and the doctorate. Only the *licenciatura* required further study, mostly the reading and committing to memory of more classic texts required to perform the "acts" and stand the long and grueling examinations. The doctoral degree required no further studies, only an additional exam, and in some cases was conferred on the candidate only a few days after the licentiate. The main difference between the two seemed to

be one of status rather than knowledge; such status was clearly on display in the very expensive and elaborate ceremony in which the doctoral candidate participated in as part of his graduation.[41]

Surgeons

30

Although more humble in status than the physician, the surgeon played a more ample role in New Spain's medical marketplace. Surgery was considered a manual craft rather than an intellectual science, involving the hand, not the head. The *cirujano* treated external ailments such as wounds and injuries, broken bones, and skin conditions such as boils and rashes. He also typically pulled teeth, let blood, and treated kidney stones, hernias, and venereal diseases. Surgeons constituted a very broad spectrum of practitioners in New Spain. The surgeon's world was easier to enter than the physician's; but once inside, many cirujanos easily passed over into the practice of "internal" medicine, which was more prestigious and lucrative. Much of everyday practice was in the hands of barber surgeons, *cirujanos barberos*, who considerably outnumbered physicians and had an important role in what today would be considered primary medical care. Surely it was surgeons, not physicians, that came in the first ships to the Indies, and later accompanied the conquistadores. Bernal Díaz mentions one of them, a "Maestre Juan," who is called by Pánfilo Narváez after a battle to tend to his wounded eye. Later on, after the fall of Tenochtitlan, the same surgeon is still on the scene, curing the wounded at "excessive prices."[42]

31

Colonial officials employed surgeons early on to treat the incarcerated and the poor. In 1525 the newly formed *Ayuntamiento* in Mexico approved the amount of 50 pesos annually for Francisco Soto, "barber and surgeon, so that he should reside in this city and perform those services."[43] And in 1610, just three years after it began appointing physicians to treat the poor, the cabildo of Mexico City began to hire barber surgeons as well.[44] The Inquisition continually employed medical personal—physicians, barber surgeons, nurses, and midwives—to attend the prisoners in its jails. The vast records of the Mexican Holy Office often note when a doctor or surgeon had attended a certain prisoner, but in a few cases more detail was given. One such case is that of Teresa Romero, a young woman accused of being an *alumbrada*, someone who claims to be in direct communication with God. Although she was only 18 years old and unmarried ("*se hallaba en opinión de doncella*") at the time she entered the Inquisition's prison, she was eight months pregnant. A midwife was brought in to oversee the delivery, along with an Indian woman who had recently given birth to attend the new mother and child. For the next ten years, Teresa (along with her son!) lived in a dark cell while awaiting her trial, and on many occasions she requested medical care for herself and the child. On one occasion she complained of "*vómitos de cólera*," for which the *médico*, a Doctor de los Arcos, prescribed a concoction made from peach pits, and for her son, who was suffering from a rash, an ointment of animal fat. And, at various times, a surgeon was called in to perform bleedings on Teresa.[45]

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Another document from the Inquisition provides insight into the kinds of medical services surgeons actually provided. In the 1640s, Juan de Correa, *"Barbero y Cirujano de las Cárceles Secretas del Santo Oficio*," petitioned the tribunal for more pay by enumerating the services he had provided. In five years of service, he claimed to have performed over 4,000 shaves, at least 1,200 bleedings, pulled 37 teeth, applied 90 pairs of cupping glasses (*ventosas*), opened and cured 32 ulcers, and succored the "tortured" and "whipped" (*atormentados y azotados*). In addition to these typical surgeons' tasks, he also claimed to have treated successfully hundreds of ailments and illnesses (*achaques y enfermedades*), all with the "utmost care, certainty, and study."[46] In theory, the line separating médicos from cirujanos was clearly marked, in everyday practice it was not.

33

The wide gulf separating the elite physician and humble surgeon was common to most parts of Europe. Although physicians of the ancient world were expected to be competent in both medicine and surgery, from the late Middle Ages until the eighteenth century the two were the province of separate groups of practitioners. Universities controlled the licensing of physicians, while surgeons were regulated by the trade guilds. Because the surgeon's closest occupational links were with the barbers, it became common for the two trades to be carried on by a single practitioner, the barber-surgeon. The earliest guilds of barber-surgeons date back to the thirteenth century. In 1540, the Surgeons of London united with the Barber-Surgeons' Company becoming one of the largest guilds in the city. Guild members had strong economic incentives to control the numbers of would-be practitioners entering the trade and ensure a basic level of competence by apprenticeship. Spanish barber-surgeons differed from their northern European counterparts in that they, ostensibly at least, operated under the control of the centralized Protomedicato, and thus were not organized into trade guilds that set their profession apart from other medical practitioners. In fact, one recent study argues persuasively that reforms under Philip II created a more positive environment of exchange—of knowledge and techniques—between university educated practitioners and empirically trained barber-surgeons than existed in other countries of Europe at the time.[47]

34

Although it appears that most European surgeons were of the mechanical arts variety—trained by apprenticeship to treat the accidents and injuries of daily life—a few came out of a separate tradition of academic surgery that had flourished in southern Europe since the late Middle Ages. This was especially true in the universities of Italy where surgical theory and anatomy were taught by physicians. Because of the links between the Crown of Aragon and the leading Italian universities, this tradition of surgical scholarship gradually spread into Spain. During the sixteenth century medical faculty at Spanish institutions, such as the universities of Alcalá de Henares and Valencia, enthusiastically adopted the teachings of Andreas Versalius (1514–64), the great anatomist, along with the practice of human dissections that would eventually enrich theoretical knowledge of disease. A new generation of academic surgeons emerged at this time and made significant contributions to contemporary surgical literature. It was this development, combined with the reforms of Philip II making surgical study part of the medical curriculum, that allowed surgery to achieve a social and professional status in

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Renaissance Spain perhaps unequaled in Europe at that time.[48] But the flowering of Spanish surgery was brief. Toward the end of the sixteenth century, innovative scholarship in medicine and surgery declined for reasons that are still being explored by historians today. Explanations of Spain's perceived "backwardness" in science and technology—the origins of which are often traced to the late fifteenth and sixteenth centuries—are plentiful: the censorship of a powerful and exceptionally active church; a culture shaped by a long history of religious crusading that valued warriors and clergy above other callings; the statues of purity of blood to exclude persons of Jewish or Muslim ancestry from entering universities; Philip II's 1558 prohibition of Spanish students studying outside the Spanish kingdoms; and, perhaps most important, the overextension of Spanish resources as Philip fought several costly wars—in Tripoli, Malta, the Low Countries, the disastrous Armada loss—which severely limited Spain's ability to play a part in the seventeenth-century scientific revolution.[49]

35

Ideas about the education of surgeons began to change in the eighteenth century signaling the beginning of the end of surgical training by apprenticeship. The surgical elite in Europe, and later in Spanish America, sought to raise professional standards in accordance with the various ideological and economic changes taking place during the Enlightenment. The emphasis on observation and experimentation increased the respectability of the methods of the surgeon, which now came to be frequently combined with academic theories of medicine. University courses and medical degrees gradually supplanted apprenticeship and guild certification, making surgery, obstetrics, and ophthalmology medical specialties rather than lower-status occupations. Much of this new education was carried out in conjunction with the hospital and the state. The latter, often through the military and/or private interests, established (or transformed) hospitals into exclusively medical institutions (rather than the shelters of Christian charity they had been since the Middle Ages) to treat the chronically or acutely ill, the injured, and, increasingly common in the latter part of the century, to deliver babies, and to train medical practitioners, primarily surgeons. Hospital training ideally combined the surgical apprentice's hands-on experience with the medical pupil's theoretical analysis of individual cases.[50] In Spain, the first Royal College of Surgery was established in Cádiz in 1748. Shortly thereafter, other surgical colleges were established in Barcelona and Madrid. Because the Bourbon monarchy at this time made the modernization of the military a priority, the new surgical schools were designed to cater to the needs of the growing army and navy. In addition, the power of the Spanish state was enhanced by breaking the monopoly of the universities and limiting the power of the Royal Protomedicato. In eighteenth-century Mexico, as in Spain, a fresh interest in surgery and anatomy was on the rise. The Real Escuela de Cirugía was established in 1768, modeled on the new surgical institutions in the Peninsula. Its founding was part of the Bourbon state's reorganization of its colonies, and the school was very closely linked to the needs of the military in New Spain.[51]

36

In Spain, and by extension its American colonies, surgeons were usually distinguished by educational background: the *cirujano latino*, the long-gowned surgeon, university trained and well versed in Latin, and the *cirujano romancista*, the short-gowned surgeon, lacking both a

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knowledge of Latin and a formal education. This distinction was carried over into the regulations governing medical practice in New Spain, although much uncertainty has surrounded the question of qualifications to practice as a romance surgeon. During the colonial period, most surgeons practicing with a license had at least four or five years of apprenticeship in a hospital or, lacking that, under the tutelage of some "approved" surgeon who, most likely, acquired his skills in the same way. Like the candidate for physician, the aspiring surgeon also had to produce the necessary documents establishing *limpieza de sangre*, a certificate of baptism, and documents of good character and habits. After the establishment of the Real Escuela de Cirugía in the eighteenth century, no student was allowed to be associated with a barbershop, which "would lead him into vicious habits out of keeping with the honor and respect due to the faculty he was entering." And even though most candidates did not enter the school with a bachelor's degree in medicine—thus, they could not be considered Latin surgeons—their graduation from such an institution stipulated that they were not romance surgeons either.[52]

37

Although surgeons were disdained by physicians, they surface frequently in the records, suggesting that they were much more commonly consulted than their elite competitors. These were the general practitioners of their day. The more one reads the contemporary documents, the more evident it becomes that the category of medical practitioners called surgeons is a very large and fluid one. Various levels of official medicine were practiced by people calling themselves *cirujanos*, many of them specializing in the treatment of specific problems that demanded practical skills: the *algebrista*, or bone-setter, who set fractures and reduced dislocations; the *sacador de la piedra*, who removed painful bladder stones; the *hernista*, who reduced and managed hernias; and the *batidor de la catarata*, or oculist, who specialized in treating cataracts.[53] Both bone setters and oculists were appointed at various times in the sixteenth and seventeenth centuries by the cabildo in Mexico City to treat the poor.[54]

38

At the lower echelons of surgery were the phlebotomists or bleeders, popularly called *barberos*. The use of bloodletting was a major feature of Greek rational medicine, and although surgeons, and some physicians, performed this technique, barbers were the "technicians" who specialized in the procedure known as *sangrías*. Although required by law to be licensed, bleeders were not expected to have academic training or even to be literate but only to have apprenticed with an approved surgeon or phlebotomist for four years. What *barberos* actually did may be deduced from the kind of questions the protomédicos asked the phlebotomist seeking a license. A solid knowledge of veins and arteries was crucial in order to bleed properly and to apply the cupping glasses and leeches. But exam questions indicate that barberos were not limited to bloodletting alone. It seems he was also expected to know how to lance boils and treat ulcers, how to handle accident victims, and how to extract teeth, especially troublesome molars—a handy skill in an age before modern dentistry significantly reduced tooth decay.[55]

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Like other branches of the colonial medical profession, phlebotomists were a diverse group. The upper crust of practitioners were licensed and many of them owned their own shop, or *tienda*, or managed one for a colleague. Slightly beneath them were those barbers that, although not licensed by the Protomedicato, had been legitimately apprenticed in their craft; many of these, too, owned or worked in shops. More numerous, however, were the lower orders of the trade: the unlicensed bleeders who did not work at established tiendas but offered their services in *puestos* at the various open markets that dotted the urban landscape of New Spain. In a very early description of colonial Mexico City, Francisco Cervantes de Salazar mentions that the barbers operated out of stalls with "all classes of artisans and craftsmen"—carpenters, locksmiths, shoemakers, weavers, and breadmakers—along the *calle de Tacuba*.[56] Another chronicler from the eighteenth century mentions that the barber stands were among those removed from the *Plaza de Volador* anytime there were bullfights; the barbers there, it was noted by another, "set themselves up [and] apply their skill to the poor who come to be bled or to have their beard cut."[57] Bleeders also set up shop "beyond the walls" of the city to escape detection by the authorities. Run by so-called *chinos*, these shops so greatly increased in number that in 1636 the viceroy, the Marquis of Cadereyta, gave strict orders that no more than twelve of these should be allowed to operate. As with most laws clamping down on the illegal practice of medicine, this appears to have had little effect; fourteen years later, a similar order was issued again by another viceroy.[58] **39**

The barbershop must have been a common sight in colonial Mexico City. According to a survey of phlebotomists in 1790, there were a total of eighty-six registered tiendas operating in the capital.[59] Numerous other small shops must have existed in the recesses of the city, beyond the reach of authorities. Although *barberos* were thick on the ground, it is not clear whether they all practiced the medical craft of bleeding, cupping, applying leeches, and pulling teeth. But because those who did were supposed to be licensed, the Protomedicato stipulated that *sangradores* should distinguish themselves from those barbers that only trimmed and shaved beards. Over the centuries, in both Spain and its American colonies, *ordenanzas* were issued so that "pure Barbers not be confused with bleeders, and [so that] the Public does not suffer from errors on this point, . . . the former should indispensably display in the doors of their shops a curtain and basin, [and] the latter should distinguish their shops as always with a lattice window and tile (*celosía y tejar*), [it] being understood that the Barbers, if they exceed [their position] by bleeding or pulling teeth, the Visitador del Protomedicato will proceed against them in accordance with the laws." At one point, there was also an attempt made to have those barbers who worked in the city streets (*"en aire libre"*) to wear a large hat with a white feather in order to be identified as medical attendants. This suggestion met with little success and bleeders continued, for the most part, without regulation.[60] **40**

A surviving inventory from 1575 gives us the opportunity to imagine the inside of a barber's tienda and to know something about the barber himself. The shop, located on Tacuba Street, belonged to the barber-surgeon Alonso Salas, who was arrested by the Inquisition for insulting an official of that body (*injurias a la Autoridad*). The tienda must have been a **41**

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decent-sized operation, as it had three barber's chairs, all made from orange-wood, a large mirror, at least twelve brass and silver basins, several decorative wall hangings (*guadamaciles de cuero colorado*), leather-covered boxes filled with small surgical and shaving tools, plus a large assortment of razors, knives, and lancets. We can surmise from the inventory too that Salas was probably a literate man as his goods included four books on surgery, a book of stories, and two hand-painted writing desks. We also know that he was a man of higher status in this colonial world because he traveled about on horseback. In addition to the personal goods of his household, Salas owned a bay horse and a dark pony with saddle and bridle plus other riding tack such as iron stirrups, spurs, and a breast plate decorated with bells. This barber was well-armed, too, owning several guns (*una escopeta y un arcabus*) and a sword. Obviously Salas moved in circles of higher standing in Mexico City, at least until his arrest by the Inquisition.[61]

Pharmacists

42

Parallel in status to the surgeon was the *boticario*, or pharmacist. Ostensibly limited by the Protomedicato to preparing and selling the simples and compounds that were the staples of colonial medicine, in reality many boticarios practiced some kind of medicine. Boticarios occupied a unique position in New Spain's medical marketplace. For one, unlike many of the surgeons that practiced in colonial Mexico, pharmacists were usually literate and had some knowledge of Latin. This gave them access not only to information on preparing medicines from various botanical and animal materials but also to books written on the diagnosis and treatment of diseases. In addition, their specialized training—like that of surgeons, a four-year apprenticeship—gave them access to imported and local medicines, and, at least by law, the exclusive right to sell them to the public as the pharmacy, or *botica*, was the only establishment that was licensed to sell the public ready-made medicines or have a physician's prescription filled. In addition to literacy in Latin, the pharmacist needed to demonstrate a solid knowledge of the medicinal properties of several hundred plants, along with numerous animals and minerals. To transformation these ingredients into medicines for public consumption the he would need to master the different methods of preparing the simples and compounds, such as infusion, sublimation, filtration, and distillation. In addition to his pharmacological skills, the boticario seeking a license had to prove, of course, his *limpieza de sangre* with documents that showed that none of his ancestors were of Jewish, Moorish, Indian, or African blood.[62]

43

Among the many laws that governed boticas in the cities of New Spain, were a number of restrictions on who could own them. Both physicians and surgeons were prohibited from owning boticas just as pharmacists were not legally allowed to practice medicine. One way that the Protomedicato sought to keep abuses in the practice of medicine low was to separate the functions of practitioners. Thus, surgeons and physicians should not have a financial

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interest in the treatments they prescribe, nor should pharmacists be able to profit from the sale of drugs they themselves recommended. In addition, a boticario was not allowed to own more than one pharmacy, even if it were in a different town.[63]

A further restriction on ownership was one that made it illegal for women to own pharmacies. As in other areas of the practice of medicine, these laws governing the dispensing of drugs did not reflect everyday reality. For one thing, some women did own boticas, even though the law forbade them to operated "either publicly or secretly," even with a licensed boticario filling prescriptions, a prohibition that remained on the books until 1801, when women were allowed to own, but not manage, pharmacies.[64] A late-eighteenth-century survey shows that at least five out of the thirty-five pharmacies surveyed in Mexico City belonged to women.[65] Other cases surface in the colonial sources of women fighting in the courts to retain the right to operate the shops they had inherited from deceased fathers or husbands. One such instance occurred in Celaya during the waning years of Spanish rule. The botica that Doña Ana de Aponte had inherited from her parents, and had been in her family for more than twenty years, was closed by local authorities "with no other idea than the welfare of the public" in mind, and on the allegation that the *boticario* in charge did not have a proper license. For the next three years, from 1801 to 1804, Doña Ana went through the long, drawn-out process of appealing her case, first to the district court of Querétaro, and finally to the Protomedicato itself in Mexico City. The source of her undoing, most likely, was her only competition in town: a botica owned by a surgeon, also in clear violation of the law. Doña Ana claimed that the local, and later, the regional officials and inspectors were in collusion with the surgeon and biased against her. The records are silent on whether or not her persistence was rewarded.[66] And despite the law prohibiting her competitor from owning a pharmacy, this appears to have been a fairly common phenomenon for both surgeons and physicians. The bachiller Jan Manuel Venegas and Pedro Puglia, both brought before the authorities on charges of dispensing drugs illegally, were a few of the many physicians who owned pharmacies in the late eighteenth century.[67] **44**

Probably the most frequent violators of the Protomedicato's pharmaceutical laws were the pharmacists themselves. Although strictly prohibited from practicing medicine, most boticarios not only gave medical advice, but treated their clients' illnesses as well. So commonplace was this practice that a pharmacist did not hesitate to sue a client for nonpayment of fees. In 1779, the boticario, Manuel del Castillo, filed suit against one of his former patients, Bartolomé de Martos, for not paying his medical bills. The case, which was brought before the authorities of the Criminal Court of the Province of Mexico, goes into a fair amount of detail about the illnesses of Don Bartolome, his wife, and two daughters, all treated at their home by the boticario over a period of one year and seven months. These ailments—Don Bartolome's diarrhea and *insultos*, a temporary attack of paralysis; Doña Maria Micaela de Sierra's paralysis in her legs, and the daughters, Maria Luisa and Maria Micaela, both nuns in local convents, painful kidney stones—were conditions that, ostensibly at least, would have fallen under the purview of the surgeon and the physician. But the pharmacist was well placed **45**

to compete with his high-status competitors; he had unequaled access to foreign and local medicines and the knowledge to prepare them, and, because he was literate, access to medical books that would direct him in diagnosis and treatment. This combination assured him an important place in the medical marketplace.[68]

46

In addition to overseeing examinations and licensing, the Protomedicato was charged with carrying out periodic inspections, or *visitias*, of all the pharmacies in its jurisdiction, that is, all those public boticas, whether privately owned or part of a hospital or religious institution, in relatively urban areas. The *visita* was supposed to ensure that pharmacists were operating with a proper license, that medicines were being prepared and dispensed correctly, that the shop was properly stocked with the basic ingredients, that the boticario was not overcharging the public, and, most important, to ensure that medicines were not "corrupted or altered." The pharmacopeia commonly used in New Spain, apart from the addition of several native medicines, was not that much different from that being used in Europe. The large number of remedies available, from simple herbs to the most complex preparations, were divided into *simples* and *compuestas*. The former included any single organic material—animal, plant, or mineral—used alone as medicine or employed in the preparation of a compound. The compuestas were medicines prepared from a variety of simples. Since medicines were derived almost completely from plants or animal materials they were prone to spoilage rather quickly. The offense of selling medicine past its prime or, worst yet, selling one that had been altered and sold under false pretense was considered especially serious by Protomedicato authorities and the general public alike. Such medicines were confiscated and burned publicly, and the boticario was order to replace them with "medicines of good quality," and fined 6,000 maravedís.[69]

47

This description conforms pretty much with the experience of one seventeenth-century boticario named Blas de Naveda. A routine *visita* by two members of the Protomedicato, a scribe, and a local pharmacist, to his tienda quickly uncovered the fact that it lacked many of the basic staples of pharmacology. When asked to produce his oils, Naveda could show nothing but a little rose-colored oil. Of the essential purges and "usuals," he could only show endive, borage, and roses. When asked to display common ointments made from gourds, lead, sandalwood, and tutty, he could not do so. In addition to the serious deficit of supplies, there were reports of Naveda's bad "preservation" and preparation of his drugs. Apparently, this was not the first time that authorities had found serious problems in Naveda's shop, yet despite repeated inspections and warnings he had not made the slightest improvements. This last inspection sealed the case against Naveda; his botica was closed and he was promptly thrown into jail to await trial. Ten days after the inspection, his "damaged" medicines burned in the "Plaza Mayor of this city next to the gallows," and his license suspended for four years, Blas de Naveda was formally released from jail.[70]

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Midwives

At the very fringe of official medicine was the midwife. Although they operated without being licensed, I include them here because, ostensibly at least, the Protomedicato had jurisdiction over them; their practice was not illegal (unless they were found using "superstitious" methods), but no real effort was made to regulate them either. Two facts concerning the *partera* or *matrona* are remarkable when considered together: practically every child in Mexico, at least well into the nineteenth century, was delivered by a midwife, and yet we know almost nothing about them. The need for their services was so widespread and common—fertility rates for women in Colonial Mexico have been estimated at about 8.5 births[71]—that it was rarely mentioned.

48

Two reasons account for this indifference: the birth of a child was not yet viewed as a medical event, and pregnancy and childbirth took place in a world confined exclusively to women. Throughout most of the colonial period, the *partera* or *matrona* was free to practice and her role in assisting women with childbirth was rarely questioned by the Protomedicato. Only in cases of difficult deliveries, which most often resulted in the death of the mother, child, or both, was the colonial midwife bound by any sort of legislation; in such a case it obliged her to seek a surgeon's aid for the suffering parturient. Parteras, too, sometimes were subject to Inquisitional scrutiny for practices that had any appearance of witchcraft or idolatry. In 1617, Doña Ana de Angulo was brought before the tribunal for giving a woman in labor *peyote* and placing scissors under her pillow to avert afterpains. In late-eighteenth-century Pachuca, midwives came to the attention of the Inquisition for inscribing certain verses on wafers which were then feed to women in childbed, a practice "very common to this place."[72] The art and technique of midwifery in Mexico was passed down through the female line from one generation to the next, blending indigenous and European practices and beliefs. By the end of the colonial period both traditions had combined into a unique synthesis that, for the majority of Mexican women, remained the most common form of managing childbirth well into the twentieth century.

49

Throughout much of human history the two most significant events in the life cycle, birth and death—today both highly medicalized—were not seen as medical events, and their management was very much in the hands of lay and religious experts. Studies of childbirth in early modern England, where more testimony about their practices have survived, have shown that it was a highly ritualized social ceremony that was confined exclusively to women, men being rigorously excluded. Well before she went into labor, the expectant mother had already made arrangements for the birth by choosing the birth attendants—her midwife and a carefully selected group of other women , the "gossips," who would help manage the delivery. The birth included a number of rituals, dutifully carried out by the gossips, which gave ceremonial importance to the event such as the preparation of the lying-in chamber, transformed from its everyday appearance by physically and symbolically enclosing it; the preparation of the *caudle*, a hot, sweet drink made of wine or gruel and flavored with spices, which the mother drank to keep up her strength and spirits; and, after a successful delivery,

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the proper swaddling of the infant and the handing it over to the mother. Each midwife had her own style of managing the birth: some used force and manipulation, whereas others left things to nature; some used magic and charms, others did not; many specialized in different body postures that would help facilitate birth.[73] Midwives did not offend female modesty—a continual concern being the indecency of having men attend women in childbirth—and some of them developed considerable skills in dealing with complications. European obstetrical customs were very reminiscent of those practiced in precontact Mexico.

51

Midwives in New Spain officiated over the birth very much like their European counterparts. These were almost always older women, usually widowed.[74] They were assisted by a couple of female attendants, called *tenedoras*, who helped position and manipulate the woman in labor. The most common positions in which Mexican women, of all backgrounds, delivered their babies were either kneeling or sitting on the birthing chair. The latter, *la silla para el parto*, which was a piece of equipment that belonged to the *partera*, was essentially a chair without a complete bottom through which the child was delivered. A variant of the kneeling position, "found among the Indians and lower classes around San Luis Postosí," had the laboring woman partially suspend herself from a rope attached to a diagonally placed beam. The midwife, situated in front of the parturient, would massage the uterus, while the *tenedora* supported her from the back. Other rituals of childbirth depended on the social groups of the participants. Mestizo and creole women, for example, might keep images of virgins or saints close to their bodies while in labor; San Ramón was a favorite among expectant mothers. During the most dangerous time of the delivery—when the child is passing through the birth canal—pieces of ribbon, paper, or religious wafers containing "words of the Virgin" might be laid on her belly.[75]

52

As the regulation of medicine by the state increased, the independence and autonomous practice of female midwives was curtailed. This process began in Europe in the late eighteenth century. Knowledge of obstetrics made substantial advances during this period; by the end of the century the anatomy of the gravid uterus and the physiological mechanism of normal labor, along with its three stages, had been described. The normal process of placental separation was also explained, changing ideas on the management of the dangerous third stage of labor. The older method of *accouchement forcée*, the forcible dilation of the cervix in order to speed up labor, was now condemned. Almost none of this had been known in 1700. By 1750 there were substantial numbers of "men-midwives" delivering babies in England and by the end of the century, most surgeon-apothecaries, and well as some physicians and surgeons were doing the same.[76] In Mexico these kinds of changes in how babies were delivered came much later; only in the last half of the nineteenth century did it become more common for doctors and surgeons to be involved in childbirth, and even then mostly for upper- and middle-class women. There is very little in the historical record to show that colonial authorities made any real attempt to formally educated and license midwives in New Spain, even though complaints about them were common, especially in the last half of the eighteenth century. In 1793, for example, professors at the University of Mexico repeatedly

stated the need for regulation of midwifery; the surgeon and "master of anatomy," Miguel Moreno y Peña testified to the cabildo in Mexico City that "the swollen crowd of women who have introduced themselves into this city" practice at the expense of the lives of mothers and fetuses. But chronic financial stringency and an apparent lack of interest in the exclusively female world of childbirth prevented any effective response to the need for reform until well into the nineteenth century.[77]

Unlicensed Practitioners

53

For the greater part of New Spain's inhabitants, regular access to medical practitioners outside of the family would have been limited to the lower echelons of official medicine—that is, to the barber surgeon, the poorer boticario, and the midwife—or to someone who fell clearly within the illegal practice of medicine such as the curandero. For the purposes of this study, I have made a distinction between legal and illegal practitioners, but such a distinction would not have mattered much to most of colonial Mexico's population. Unlicensed practitioners—sometimes called *intrusos*, or "intruders" by the authorities, were not a marginal group; rather, they formed a large and heterogeneous majority whose services were in high demand by the public. In contrast, the medical establishment was a small minority attempting to exert control over its profession. This was difficult for reasons already alluded to earlier in this chapter. Spanish authorities attempted to establish a medical system that was developed according to metropolitan models, a system that was severely challenged by the vast territories and large populations of the New World. The severe shortage of licensed medical professionals that prevailed throughout the entire colonial period quite predictably created a large vacuum into which unlicensed, and often untrained, individuals swarmed. Furthermore, the primitive state of medicine made it more difficult for the medical establishment to offer unique and superior services. The years spanning Spanish rule in Mexico took place in an environment where lay-oriented information—as opposed to the expert-oriented information of our own time—still prevailed, and medicine had not yet become the esoteric body of knowledge that would later make it the monopoly of highly trained specialists. The novice could acquire all sorts of medical expertise empirically by working alongside the barber-surgeon, the partera, and the curandero. And for the literate layman who had access to medical books and some training, the opportunities to offer services comparable to the university trained physician or surgeon—in effect to pass themselves off as licensed professionals—were abundant.

54

The protomédicos complained frequently that their enforcement outside of the capital was being undermined by local authorities who protected illegal practitioners. Yet, given the persistent scarcity of licensed medical professionals, municipal and regional officials were faced with two alternatives: allow large segments of the population to go without any health care at all, or, interpret the law prudently by tolerating some unlicensed healers to operate. One essential question in this larger debate was whether Indian towns fell under the same laws as those with sizable Spanish and Hispanized populations. According to the *Recopilación de Leyes*, the massive compilation of laws governing Spain's possessions in the Indies, the

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Protomedicato's rule on the licensing of medical practitioners only applied to "places where Spanish people live, not for Indian places."[78] When Philip IV was informed in 1652 that illegal practitioners far outnumbered their legal counterparts, his orders to Viceroy Enríquez de Guzmán made a clear distinction between unlicensed practice in Indian towns and those in which Spaniards lived. *Intrusos* in Spanish towns should be vigorously prosecuted, although, he noted in the same *real cédula*, it was not illegal to practice medicine in Indian towns without a license.[79] In an eighteenth-century lawsuit, in which the issue of healers in Indian towns was challenged, the Justice of the Indian village of Teocoaltiche in the Audencia of Guadalajara, argued that the licensing requirement should not be applied to curanderos in Indian communities because even though they did at times "act as doctors or surgeons," it was better to have "someone who has modest experience or knowledge to attend to such things, than to have an absolute lack of recourse [for help] and to be required to put oneself in the hands of people who have no understanding and lack entirely any practical knowledge."[80]

55

These same arguments were made time and again regarding towns with a strong Spanish and mestizo presence, especially in those sparsely populated areas in north central Mexico. Regional cabildos, faced with the paucity of legal practitioners, either licensed those with dubious qualifications, or neglected to demand their papers. In 1795, for example, a surgeon named José Sánchez Camaño, who had been practicing for two months in the Valle de Santiago, located in the intendancy of Guanajuato, protested that a horde of curanderos, bleeders, and old women were allowed to practice freely. Local authorities defended their tacit tolerance of the situation by admitting there may have been "some misfortunes," but in places where there were no examined physicians, people had to rely on those who had empirical knowledge or reading ability, and thus could prescribe or apply some simple remedies for common ailments. The outcome of this case is even more illuminating: when the Protomedicato checked the accuser's background, they found that he himself was unlicensed! The affair ended with the arrest of Sánchez Camaño and not in the ruin of the local *intrusos*.[81]

56

The difficulties in restraining the activities of unlicensed practitioners are further illustrated by the case of Nicolás García Miranda, a surgeon who practiced both surgery and medicine in the late eighteenth century. First exposed to medicine while working at the botica of an uncle, García Miranda later enrolled and completed four years of training at the Escuela de Cirugía, although he never obtained a license from the Protomedicato. And even though the law forbade his working in the pharmacy, he continued to do so, offering medical advice and building up a good-sized roster of patients through word of mouth. In 1784, García Miranda was fined 50 pesos and forced to leave his uncle's botica. Eight years later, the Protomedicato caught up with him again, this time for "curing people without a license." It also was noted that he treated "medical diseases" and prescribed internal medicines, areas of medicine that fell clearly outside his expertise as a surgeon. His case is interesting, more for the light it sheds on the public's perception of what constituted a qualified practitioner, than for what it says about the Protomedicato's doomed efforts at controlling the practice of medicine. Some of

García Miranda's patients who testified in the case stated that he was more skillful than many licensed practitioners. One man, a José Medina, testified that he was successfully treated by the surgeon for a broken leg, whereas his wife, María Juana Estolinque, was cured of "gangrene" in her hand and legs. She had been "mutilated" and written off as a terminal case by several licensed practitioners before García Miranda took charge of her care. Another witness in the case declared that his wife, who had been gravely ill with dysentery and eventually died from her affliction, had been treated by García Miranda and a licensed physician. Despite the death of his wife, this witness felt that both practitioners had given excellent and comparable treatment, as his willingness to testify on behalf of García Miranda makes clear.[82]

57

Another type of intruder that inspired royal officials to mandate more laws regulating medicine was the foreign practitioner, both the legitimately trained and the fraud. The foreign doctor's prospects in New Spain were enhanced not only by the paucity of formally trained practitioners offering services, but by his European allure as well. This was as true in Spain as in its colonies. Benito Gerónimo Feijóo, a Spanish reformer writing in the eighteenth century of his countrymen's undiscerning awe of anything French, noted that if a French physician crossed the Pyrenees, Spaniards "thought they had gained a man capable of restoring souls from the other world."[83] The Spanish enthusiasm for foreign doctors was shared by the Mexican elite; their services were eagerly sought after by high society in colonial cities and some foreigners even married into powerful families.

58

The medical establishment, however, was inclined to view the situation differently. Foreigners tended to compete with Mexican practitioners in an area that hurt most: for the highest paying patients. Most Mexican médicos were creoles, a career in medicine offering them abundant opportunity for social prominence and financial reward. The increasing number of foreigners practicing medicine, especially in the eighteenth century—mostly French and English, but also Italian and Portuguese—provoked the local establishment to denounce the intruders frequently. The views of colonial officials were more ambivalent, however. On the one hand, the crown had mandated strict and copious laws regulating the entry of foreigners into the Spanish colonies. Any "prohibited person" wishing to reside legally in the Indies was required to undergo a lengthy and expensive process in which the applicant needed to accept the Catholic faith, obtain a special permit called *gracias al sacar*, be recognized as a proper emigrant by paying the *compuesto* to the *Casa de Contratacíon*, live continuously in the Spanish colonies for twenty years, hold real estate valued at 4,000 decats for ten years, and marry a native. In addition, those foreigners wishing to practice medicine had to hold a degree from a recognized university and then submit to the examination and licensing requirements of the Protomedicato. On the other hand, the authorities responsible for enforcing these laws often overlooked foreigners practicing medicine illegally in their jurisdiction.[84]

Curanderos

59

In the eyes of colonial authorities, the illegal practice of medicine had another component to it that went beyond the problems of licensing, one that bore more deeply into the heart of the colonial enterprise itself. All too often, medical beliefs transgressed into those of religion. The Church's formidable undertaking of eradicating idolatry and other "suspicious" practices meant that they would need to control the tide of healers that used incantations, spells, divination, or any form of sorcery to cure the sick. The overwhelming numbers of such healers doomed this endeavor from the start. Of course these practitioners, too, operated without a license, but it was the nature of the medicine they practiced that brought them to the attention of the authorities. Medical practices that violated church norms were investigated by the Inquisition if the perpetrators were Spaniards, blacks, or *castas*—people of mixed race. Indians, who remained outside the tribunal's jurisdiction, were subject to a parallel institution, the *Juzgado General de Indios*, founded in 1592, or the *Provisorato de naturales*, the tribunal for the archbishopric of Mexico that was charged with Indian affairs and oversaw matters of superstition, idolatry, witchcraft, and bigamy. Under the latter, it was common practice for local priests to gather information about suspect practices in Indian communities and, sometimes, to punish the perpetrators.[85]

60

Today, the word "curandero" brings to mind images of a healer working in long-forgotten traditions, dispensing herbal remedies, and curing curious ailments such as "evil eye" and "susto" by way of magic and ritual. But in the day-to-day world of colonial medicine, a curandero was not so clearly or narrowly defined. Sometimes it was simply the way licensed doctors described their unlicensed competition when denouncing them to the Protomedicato; often the lower-ranked practitioners were called curanderos as well. In early modern Spain the term was commonly used to refer to empirics of all kinds. Notary records of curanderos seeking licensees in sixteenth-century Valladolid give us an idea of the kinds of services they offered: listed are a Marcos de Castro, *sacamuelas*, or tooth-extractor; a Catalina de Castresana, specialist in "women's sickness"; an Alonso de Argüello, possessor of a secret powder to cure alcoholism *(contra el vino)*; Aparicio de Zubía, inventor of a medicinal oil; and María Hernández, *partera*, bonesetter, and applicator of "*bizmas"* (a type of plaster).[86] The word "curandero," then, like the term "cirujano," appears to have served as a sort of generic appellation for many types of empirically trained practitioners, a situation that conceals more than it illuminates for the historian interested in the marketplace of healers. In an effort to clarify the waters a bit, I limit my comments here to that spectrum of healers, both male and female, who utilized an assortment of indigenous, European, and African curing practices based primarily on manipulating supernatural forces. Although their methods of healing and skill level were as varied as their racial and cultural backgrounds, all of them combined magic and religion with some form of medical expertise.[87]

61

The colonial curandero's approach to medicine, whether practicing in Indian communities or in the more racially mixed Spanish towns, stood in sharp contrast to the university-educated physician, trained to see the human body in rational ways. The curandero was a specialist who

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claimed to have a unique intimacy with the supernatural elements of reality, a domain that was accorded an essential function by all cultures in New Spain, although to varying degrees. Serge Gruzinski makes the point that both the Europeans and the Indians "agreed in valuing the supernatural to the point of making it the ultimate, primordial and indisputable reality of things."[88] Of course, European notions of the supernatural, ostensibly controlled by the Church, differed radically from indigenous notions, both in concept and scope. The Church purposely restricted the domain of metaphysical reality by confining it to the Christian supernatural, while in effect excluding those states of being—drunkenness, dreams, hallucinations—to which indigenous cultures conferred a decisive significance because these states provided contact with divine entities and their powers.

62 But the task of the Church was further complicated by the fact that it did not hold a monopoly on Western forms of the supernatural. A multitude of individuals and low status groups from the Old World—conquistadores, farmers, artisans, African slaves, poor Spanish women—brought with them a mass of illicit beliefs and clandestine practices that the Tribunal of the Holy See sought to control. Colonial magic, whether originating from the Iberian countryside or African bush, differed from idolatry and Christianity in that it was not based on a body of doctrine meant to address the issues of human life; it offered no grand explanation of human existence, no promise of an afterlife. Its function was much more limited: it provided various remedies for illnesses, unhappy personal relationships, finding lost objects or animals, and protection from witchcraft. Lacking the guiding principles of religion, it was simply a collection of recipes, not a comprehensive view of the world. Emanating from a diversity of origins and uprooted from the environment that produced it, colonial magic mutated into a variety of modes, fusing indigenous, African, and European pagan practices into hybrid forms. Many of these were superimposed with Catholic ritual, distorting Christian prayers and invoking saints. In the unique environment of colonial Mexico, these disparate beliefs and practices were all set into motion, clashing and blending with one another, yet unified by a common objective: at a time when the state of medicine could offer the suffering and the diseased little real relief, the ritual of magic and contact with the supernatural provided a rich source of psychological support.[89]

63 How did one become a curandero? In many cases, induction into the profession came as a calling; in one manner or another, the healer was made aware of his or her healing powers and the obligation to use them. Sometimes this was revealed in a dream, or while enduring an illness. A near-death experience also could signal special healing powers; Ruiz de Alarcón mentions two indigenous curers who became aware of their calling through visions and dreams while gravely ill.[90] Just as in pre-Columbian times, certain people were considered to be more prone to having the "gift to heal"—*la gracia de curar*—or access to supernatural powers, especially those with physical defects. Jacinto de la Serna, writing about idolatry in the seventeenth century, noted that many of the indigenous curanderos he observed had some form of physical anomaly:

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> . . . ugly old men and [those] marked by nature, or crippled or one-eyed, and their election to their priesthood or the gift *(gracia)* they have to cure, is attributed to those defects from which they suffer and the signals they have, and they say that when one lacks an eye or a leg, it gives them that gift.[91]

Those with a special calling to cure generally learned their craft under the tutelage of a practicing curandero. Not infrequently this apprenticeship took place within the confines of the family, the passing down of empirical know-how and rituals from one generation to the next. The craft of curing also could be learned with a specialist in the community, the would-be healer serving as helper and student concurrently. Some practitioners took on several apprentices at one time; in the late colonial period, both the mulata curandera Dominga Nuñez "La Polla," and the Indian Santos Bernabela had a group of young women under their instruction and supervision.[92]

64

Colonial curanderos differed radically from practitioners trained in humoral medicine in the ways they diagnosed the patient. The latter commonly viewed illness as the result of natural causes: body functions gone awry because of humoral imbalance, for example, or dietary mistakes, the effects of climate, even old age. Curanderos, by contrast, did not generally interpret sickness as an accidental phenomenon, but rather as "injury," a form of aggression perpetrated by some person (witchcraft) or supernatural entity (punishment). The tasks of the healer, then, were, first, to determine who or what was causing the harm—either a god, (or, by the seventeenth century, perhaps a saint), a sorcerer, or damage to one of the animistic entities in the body—and, second, to apply the appropriate treatment. The source of an illness might be discovered through the use—either by the patient or the practitioner—of psychotropics such as *peyote* or *ololiuhqui*,[93] whereas the treatment itself could entail any number of supernatural and empirical methods. Ritualized incantations, offerings, prayers, and confessions were common, as were such techniques as curing a wound with a curandero's breath, the painting of signs or figures (usually snakes) on the sufferer's back, head, or abdomen, or the sucking-out of various objects from different parts of the patient's body. In the latter case, illness could manifest itself in the most bizarre forms: Inquisitional documents show that curanderos extracted such things as insects and worms, strangely colored human and animal hairs, or small sticks and stones. These peculiar objects could be sucked out—the curandero used his or her mouth to do this—of any part of a patient's body, but most common was from the navel or somewhere on the face.[94] The healing methods of the indigenous curandero, at least during the first hundred years of the colonial period, had changed very little since the days of their ancestors.

65

An *Edicto de Fe* disseminated by the Provisor and Inquisitor of the Indies in 1796 indicates the kind of curing techniques the authorities deemed intolerable: "abuse of *pipilzitzintles, peyote* (both hallucinogenics), *chupamirtos* (hummingbirds), or roses, or other herbs, or animals; or feigning miracles, revelations, ecstasies, or raptures occurring to others so they may know things in the future, distant, or hidden, or executing them themselves; or carrying food offerings, figures, wax or incense to caves, hills, springs, ponds, or rivers, with the

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purpose of making offers to the air or other elements . . ."[95] In addition, the *inquisidores* were always watchful for practitioners who used language and ritual that, in the eyes of colonial authorities, transgressed official Christian doctrine. The ritualized use of prayers and orations by the laity strayed too easily into the realm of magic and pacts with the Devil. In 1784, José Antonio Hernández, a Spaniard, was arrested on charges of *curandero supersticioso*. Specifically, the Inquisition accused him of being a cheat and a liar *(engañador y embustero)*, who abused sacred things like the Holy Cross, benedictions and orations, pretending to see holy visions in the water, and having a pact with the Devil.[96] Hernández spent four years in the secret prisons of the tribunal while his case was being investigated and, in addition, his personal goods were confiscated to pay the cost of his stay. His story is typical of the individuals detained by the Inquisition; stays were long, sometimes stretching into a decade or more, conditions were deplorable, and people often died while waiting for a verdict, as happened to the curandera María Tiburcia "La Gachupina."[97]

67 Awaiting the outcome of the investigation was often times worst than the final sentence. Curanderos, unless their crimes involved something more serious, for example, heresy, rarely were punished with life sentences, the most common penalty being a reprimand, which might be done privately or before the public. The guilty also were warned not to repeat their erroneous practices, as the inquisitors would not be so lenient the next time around. The patients who sought out these questionable cures were sometimes punished as well, their crime consisting in holding beliefs that offended the Catholic faith.[98]

68 Because most historical documentation on colonial curanderos centers around people being accused of superstitious practices and magic our view of them tends to be skewed. We are inclined to liken them to witchdoctors and shamans. But the repertoire of the curandero did not belong exclusively to the realm of the supernatural; most healers combined these practices with the standard therapeutic techniques of the day, such as bloodletting, purging, bathing, and massage. In addition, many of them had ample knowledge of Spanish and Mexican phamacopia. Ruiz de Alarcón describes several of the empirical remedies still being used in the seventeenth century, although without much interest, as the focus of his attention are the idolatrous incantations which always accompanied the cures. For broken bones, a plaster is made from an herb called *poztecpali*, which means "medicine for breaks." For stomach pain, a plant called *atliman*, is administered by means of an enema, and the "curing of diverse illnesses and pains" is treated by pricking the affected part with a needle or viper tooth. An innovative method of applying heat and pressure to a body in pain, called *tetleiccaliztli*, is worth describing is some detail:

> It is the case, then, that when someone is overly tired from walking or work or gets a chill while he is sweating from the excess of work or heat, and his spine has become stiff and taut, with pain in the loins, which also accompanies these troubles, in such a case these false doctors apply the cure that they call *tetleiccaliztli*, all of which consists in imparting warmth to the pained part with pressure, warming first a rock or comal. Then they stretch the patient face downwards on the floor, with all the back naked; then the false doctor with the

> staff in his hand thoroughly wets one foot, the calluses of which are like the knees of a camel because of excessive use. With the foot being thus wet, he places it on the very hot bowl or rock. He leaves it there until the heat penetrates the calluses to the live flesh. As soon as he feels that the heat has penetrated, he settles the foot, which is thus very hot, on the loins and spine of the patient, and when he presses down, the pain abates.

The pressure is applied while the curandero recites an incantation that summons the fire to aid him in combating the pain of the patient. The object of Ruiz de Alarcón's scorn however is not the physical technique, as "experience has well proved that those who suffer body pain . . . feel relief when their body is pressed on," but the "false and superstitious doctors" who have "introduced a deception with their excommunicated spells, attributing to words that which the act brings by itself."[99] **69**

Indigenous curanderos were not the only ones to cure with words. In early modern Spain the function of the *ensalmador* was "to cure, with words of supplication and rare ceremonies, certain aliments in men and beasts."[100] In colonial Mexico, the inquisitors filled their secret jails with people whose curing methods inappropriately used the sacred rituals and images of the Catholic faith. A previously mentioned curandera, a mestiza called *la Gachupina*, working in Tepeji del Río in the late eighteenth century used prayers and orations to solicit the help of Jesus, the Virgin of Guadalupe, and San Antonio de Padua among others when applying herbal remedies. The Spaniard, Francisco Moreno, who practiced during the seventeenth century in Veracruz, Puebla, and Oaxaca, was arrested by the Holy Tribunal for "*curar ensalmos*." Brandishing a cross made from green sticks soaked in vinegar, water, or wine, he recited long orations invoking the help of Christ and the Virgin, a technique he claimed was especially useful in curing "wounds, ulcers, and apostems."[101] *Ensalmadores* dispensed specific orations for all sorts of maladies; there were those which stopped the flow of blood "from the nose or of women or of wounds," and those that cured "any wound, or ulcer or pain or any sickness." Curanderos promoted various orations as preventative medicine as well. One of these, recorded in the records of the Inquisition from the seventeenth century, promises that whomever carries with them the oration found in Holy Sepulcher of Our Lord Jesus Christ in Jerusalem, "will not die in prison, nor in battle, nor will they have epilepsy . . . nor will they die suddenly, not in fire, nor water, nor will they be faint of heart, nor bewitched, and if [the possessor] is a woman, she will have peace with her husband."[102] **70**

Which social groups in New Spain consulted the kinds of curanderos I have been describing here? It seems that their services were in high demand at all levels of colonial society. Of course, the indigenous communities, especially those whose contact with the Hispanic world was limited, would have retained their medical culture long after the arrival of Europeans. But the colonial curanderos, at least those that operated within the gaze of the Church, practiced a medicine that has sometimes been described by modern researchers as *medicina mestiza*—medicine of the *casta* groups that had their origins in the conquest and whose numbers began to swell in the eighteenth century. It is within their ranks that we see the largest number of cases, the largest number of patients and practitioners alike, coming before the Inquisition.[103] **71**

True, this tribunal did not necessarily prosecute Indians, so many would not show up here; but we must keep in mind that the paucity of legally sanctioned practitioners throughout the colony made tolerance for indigenous healers a fact of life. The Spanish and creole groups of New Spain also sought out the specialized services of curanderos. One scholar, in fact, found that the bulk of patients cropping up in her study came from the Hispanic groups.[104] This is not surprising when we remember that Spanish popular medicine, although not approved of by university trained practitioners, was still very much a part of everyday life for most people. Indigenous practices penetrated this popular form of Western medicine, eventually crystallizing into a Mexican popular medicine whose traces are still seen today in many parts of the country. For people in colonial times, rational medicine could not offer superior services; thus, sufferers sought relief for their maladies from a variety of medical systems, with much less thought to ideological consistency than modern patients do.

The Church and Divine Healers

72

Any exploration of the medical marketplace in New Spain would be remiss if it failed to mention the Church's role in providing medical care. Charity was an important element of Christian doctrine, and caring for the sick was one of the seven Works of Mercy outlined in the Gospel. In medieval Europe, ecclesiastics, especially those belonging to monastic orders, were important providers of charitable care for the sick and poor, mostly through institutions set up to offer food, lodging, and care for travelers and most varieties of the infirm and destitute. These early hospitals stressed hospitality rather than medical care and were commonly established on roads leading to shrines and cities. The monasteries also were instrumental in keeping ancient medical knowledge alive; their libraries housed the ancient manuscripts, and many monks who attended the sick had read the classic medical texts, blending them with popular remedies and spiritual healing. With the expanding urban economy of the High Middle Ages, and the corresponding reemergence of lay medical professions, the tradition of *medicina clericalis* began increasingly to confine itself to the charitable treatment of the poor and those beyond the reach of town-based practitioners.[105]

73

As organized providers of charity, it was natural that priests and lay members of the Church would have had a considerable role in tending the sick in Mexico. Throughout the colonial period, various individual members of religious orders practiced medicine in addition to their religious duties, especially in those parts of the colony where doctors were scarce or nonexistent, such as the north. Priests were part of the literate minority and most had the advantage of a broader education through which they would have had some exposure to the theories of medicine. In his much-cited essay about sixteenth-century doctors, Icazbalceta mentions two Franciscans lay brothers who practiced medicine, one in a convent in Mexico City, the other in Zapotitlán. The former, Fray Lucas de Almodóvar, was so well respected for his healing abilities that Viceroy Antonio de Mendoza, "fed up with the doctors," placed himself under the Brother's care and was completely cured.[106] It is also interesting to note that many of the first medical books published in early colonial Mexico were written by doctors and surgeons who later entered into religious life. Fray Agustín Farfan, whose book,

Tratado breve de Medicina, was so successful that it was reprinted three times between the years 1592 and 1610, joined the Augustinian order after the death of his wife in 1568. The author of *Suma y Recopilatón de Cirugía*, Alonso López de Hinojosos, solicited to enter the order of The Company of Jesus in the last years of his life. From convents other authors, although not trained as doctors, wrote home medical guides for the layman, some that became standards of the time, such as Gregorio Lopez's *El tesoro de medicinias* and Juan de Esteyneffer's *Florilegio Medicinal*. The tradition of *medicina clericalis* remained strong in New Spain for obvious reasons: the existence of a large, poor, and suffering population underserved by legally trained medical attendants.

74

Hospitals were another way that the Church involved itself in medicine. Although a vigorous hospital movement had existed in Spain since the fourteenth century, during the reign of the Catholic Monarchs this escalated into a veritable boom, especially in those cities recently conquered from the Moors, such as Granada and Valencia. Hospitals were viewed by Church and Crown alike as an important tool in conversion and salvation. "Charity in the hospitals is extended to the Moor, to the Jew, to the heretic and gentile, and many are therein converted to the true faith of Jesus Christ," wrote a contemporary observer.[107] A few years later Pedro de Gante, one of the original twelve Franciscans to arrive in newly conquered Mexico, would make the same observation about the conversion of the Indians.[108] The Church's evangelical agenda coalesced perfectly with a royal agenda that sought to channel an ever-dwindling native population into productive enterprises, such as agriculture and textile production. Hospitals, along with the churches and monasteries linked to them, became important mechanisms through which the Spanish crown could attempt to aggregate a dispersed native population and achieve some degree of political, economic, and social control over them. Clearly, then, dispensing medical care was not the only motive here: political and economic goals merged with religious and humanistic ones in the founding of hospitals in New Spain.[109]

75

The mendicant orders were the first religious to found and organize hospitals in New Spain. In addition to their utility in the immense evangelical effort begun shortly after the conquest, hospitals were needed, it was argued, to assist and nurse the thousands suffering from the devastating epidemics that plagued Mexico during the sixteenth century. In 1555, the First Mexican Provincial Council mandated that each town should erect a hospital next the church, so that priests could easily visit the poor and sick to administer the sacraments.[110] The Augustinians and, even more so, the Franciscans distinguished themselves in the establishment of hospitals. In addition, a hospital association founded in the 1560s under the auspices of the order of *La Caridad y San Hipólito*, founded many hospitals throughout central Mexico. In 1589, they opened the Hospital of San Hipólito, the first institution dedicated to the treatment of the mentally ill in the Western Hemisphere.[111] Other early hospitals were founded by the Crown and prominent individuals. The Hospital Real de Indios, originally established by Pedro de Gante in the early 1530s, was later expanded and rebuilt by royal authorities to care exclusively for Indians. A large hospital for its time, its eight wards

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could accommodate more than two hundred sick and destitute Indians. And in 1521 Hernando Cortés established, and personally financed, the Hospital de la Concepción de Nuestra Señora, the first general hospital in New Spain, designed to care for the sick poor, both Spaniards and Indians; it excluded, however, patients suffering from leprosy, syphilis, madness, and St. Anthony's fire. The pueblo-hospitals established by Vasco Quiroga deserve special mention. Influenced by Thomas Moore's *Utopia*, he established pueblos in Michoacán where native Mexicans could be educated, converted, and protected from the abuses of Spaniards. Each community included a hospital containing separate facilities for patients with contagious diseases and was served by a physician, surgeon, and pharmacist. By the early seventeenth century, then, Mexico had a sizable network of approximately 128 hospitals, scattered throughout the most densely populated areas and along major roads.[112]

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Two types of hospitals were established in New Spain: general and specialized. In cities, general hospitals—for example, Cotés's, which was built in the capital—were almost always located near the central plaza and the church. In 1573, a royal decree stated that "when a city, village, or place be founded, the hospitals for the non-contagious sick are to be placed next to the church, and for the contagious sick, erected in an elevated place where no ill winds passing through the hospitals are going to hurt the population." Colonial officials, no doubt, were motivated by the frequent epidemics and the contemporary notion that miasma, or bad air, caused disease.[113] Specialized hospitals, generally erected outside city environs, usually housed patients suffering from contagious diseases: leprosy, syphilis, insanity (which was thought to be contagious), and various forms of pestilence. Cortés built a leprosarium, the Hospital de San Lázaro, named for the patron saint of lepers, in Tlaxpana, outside Mexico City. Victims of syphilis, a widespread and virulent disease in the sixteenth century, were cared for at the Hospital del Amor de Dios, founded by Bishop Juan de Zumárraga in 1539.

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How effective were hospitals at this time? Did they have any real impact on the state of public health? A realistic assessment of the early modern hospital demands first that we leave our current notions of this institution behind. The hospital, at the beginning of the twenty-first century, is central to modern medicine; it is where the most invasive and life-saving procedures are carried out, and where the elite members of the medical profession train, practice, and accrue status. It is also that part of medicine today that consumes the largest portion of health care budgets, at least in the West. But hospitals have not always been so essential to the practice of medicine, their centrality dating back only to the nineteenth and twentieth centuries. Before that they were simply one small part of the larger web of medical care, formal or informal. Early hospitals tended to be too few in number, restricted to certain social groups, employed too few medical staff, and had too little resources to be truly effective medical care providers.[114] Although colonial Mexico had an impressive network of hospitals, their overall effect on the population was probably more social than medical. They were helpful in reversing the dispersal of a native population overwhelmed by ravaging disease and the harsh treatment of *encomenderos*. Many of them, especially the pueblos, attracted Indians not only during times of epidemics and famine but also as residents of permanent status. They

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also functioned, as their founders intended, as centers for Spanish acculturation, with inhabitants learning not only the tenets of Christianity, but a new language and European medical ideas as well.[115] And equally important in a rugged and vast land such as Mexico, colonial hospitals provide a sanctuary for travelers and passers-by; one sixteenth-century observer described these retreats as a places where "travelers are entertained, and the sacraments of penitence and supreme unction are administered."[116]

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The hospitals had both positive and negative effects on the health of its patients. Contagious disease was probably spread by assembling the infectious in one location, especially since isolation procedures were then largely ineffective. Perhaps the removal of the sick from the remaining population helped check the spread of disease somewhat, but this is not known. However, the comfort and health benefits of the nursing provided by the hospital staff—that is, the furnishing of food, water, rest, and clean, warm clothing—undoubtedly saved many lives. The hospitals of New Spain also occasionally contributed to the study of medicine by providing patient populations on which native medicines were used. The physicians at the Hospital de Santa Cruz in Huaxtepec, for example, experimented with many native plants to treat a variety of illness, including syphilis. Francisco Hernández, the well-known protomédico who came to New Spain to study native medicines, learned a great deal about medicinal plants at this hospital and returned to the capital with a rich harvest of information. Autopsies also were sometimes performed on deceased patients, furthering the study of anatomy and pathology.[117]

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And what of the other type of healing, the "divine" medicine of Christ, mediated through a variety of earthly representations of virgins, the saints, and Christ himself? In addition to the hospital, the Catholic Church in New Spain offered and encouraged a number of other healing rituals which fortified its position in colonial society. By the end of the sixteenth and beginning of the seventeenth centuries, it had disseminated an enormous quantity of prayers, novenas, and religious tracts for the prevention and cure of disease. These little booklets, with their novenas to an infinite number of medically specialized saints—to San Roque for protection against pestilence, for example, or to San Rafael for protection during childbirth—were reprinted by the thousands and provided another form of medical treatment when "earthly" medicine failed.[118] Catholic public ritual also promoted a cult of saints with healing powers. Processions through the streets must have been a common sight in most cities and towns, especially during times of pestilence and drought, and chronicles of the time are filled with notices of them. In January 1737, *procesiones y novenarios* to various divine images were made through the streets of Mexico City "to ask for relief from the fiery epidemic that people are suffering from in this kingdom." Several months earlier, a pestilence of *matlazáhuatl* had killed more than six thousand people in Puebla; after a procession and novena was made to the image of Jesus of Nazareth, "the number of sick diminished." And in

the summer of 1735, when no rains had yet come, Church officials began a *novenario* to the Virgin de los Remedios "to appeal for the health of the public and speedy rains for relief from the suffocating heat, the cause of so many illnesses."[119]

The accounts of miraculous healing that circulated throughout New Spain highlight a clearly defined "hierarchy of resort," in which healing saints stood alongside domestic remedies and local medical practitioners. Reliance on divine intervention through the different avocations of the Virgin Mary and Christ, or popular saints was in large part a sign of desperation; only when earthly measures had failed was a direct appeal for a miracle in order. By the end of the first century of Spanish rule, miraculous images and their shrines were to be found all over the colony, from the northern frontier to the southern reaches of what today is Guatemala. **80**

The Mexican cult of healing saints has its origins in the tradition of pilgrimage practiced in medieval Europe. Saints as healers did most of their work after death, that is, through direct contact with their relics, or physical remains, or with the tomb that held them. People believed that healing could occur through direct contact with the relics—by touching them, drinking water or wine in which they had been dipped, sleeping next to the tomb, or eating dirt scraped from the site. Seeking this kind of medical help then almost always involved a pilgrimage to a shrine, an expensive, inconvenient, and time-consuming endeavor in a time when travel was dangerous and difficult, and most Europeans were desperately poor. This also meant that the kinds of maladies that sent sufferers on such a journey were mostly of a chronic or congenital nature; the acutely ill undoubtedly sought care from local practitioners, and had either died or recovered before deciding to take to the road. Sometime in the fourteenth century, this pattern of faith healing began to change. It became more common to hear of miracles occurring without direct contact with relics, mediated instead by an image of the saint or by a vision or prayer. It was at this time, too, that Christians began to make pilgrimages after the miracle they had requested materialized, rather than before. This change in religious practice held significant implications for miraculous healing: if saints could heal at a distance, then sufferers of acute illness could invoke them as well as those suffering from chronic disease. Furthermore, saints—or rather the custodians of their shrines who lived off its proceeds—could begin to specialize in curing specific diseases, without reducing the pool of potential patients. Indeed, specialization had a definite appeal to patients who wanted to feel that they had placed their illness in the most capable hands. It is in this way that many saints came to be identified with specific diseases: St. Sebastian with plague, for example, St John with epilepsy, and St. Maur with gout.[120] **81**

The New World, of course, did not possess many Christian saints and the relics that did find their way to the Americas generally remained in cathedrals and monasteries, where they were reserved for the contemplation of the elite. Yet the mass evangelization initiated by the Catholic Church generated a need for objects of popular devotion. In Mexico, this need was met not by saints' relics, but by sacred images of Christ and the Virgin, many of them miraculously appearing on spots previously considered sacred by precontact inhabitants. Over **82**

the years, thanks to an oral tradition of legends and testimony of divine interventions and miracle cures, these images became objects of votive supplication.[121] The most vivid historical evidence of this spiritual medical marketplace exists in the ex-votos from the colonial period and nineteenth century. Although we explore them in more detail in Chapter 5, this is an appropriate place to let one of them illustrate the kind of specialized healing for which the divine images of Mexico were well known. The sufferer is Don Luis de Isetaniux, a resident of Mexico City in the year 1799. He is ailing from "suffocation of the chest, an inflammation of the blood, and gushing blood from the mouth; and according to the doctors [. . .] little chance of survival." He implores the Christ figure—in this case, unnamed—for "the favor of being completely cured," which apparently occurs, and for which "this retablo is offered to give him thanks."

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The cult of healer saints was just one more option, albeit one of last resort, in the vast and heterogeneous medical marketplace that flourished in New Spain. As we have seen, when a medical practitioner is defined as anyone who appeared to sufferers themselves as medically skilled and experienced, than the variety of legitimate healers operating in this colonial world was quite extensive. This diversity is understandable when we consider that religious interpretation—both Christian and indigenous—was still an important way of making sense of everyday life, including health and illness. Likewise the state of contemporary medicine was such that no single group of practitioners could claim greater success than others; the physician, with all his years of book learning, did not yet have unique access to an esoteric knowledge, as his modern counterparts would later in the twentieth century. The polarities we would expect to draw as ways of distinguishing medical traditions—professional versus lay, literate versus oral, secular versus spiritual—only began to take shape in late colonial Mexico, and even then, only in the cities.

84

Now that we have examined some of the central circumstances surrounding human health in colonial Mexico– what people suffered from, and from whom they might have sought medical help—we turn our attention to the ways in which people understood how and why they became sick. This exploration takes several paths. We begin with a look at Mesoamerican etiology, that is, the conceptual framework precontact Mexicans used to explain their illnesses, an essential starting point for understanding indigenous health concepts in the colonial period. Next, we explore European explanations for illness and ideas on health maintenance, specifically those concepts based on humoralism, which looked to the environment and lifestyle as sources of illness. And, finally, our survey of everyday health experience ends with a closer look at how concerns about being sick textured daily life, including the role religion played in shaping the encounter with illness.

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Notes

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Note 14: Sahagún, *Historial general*, Vol. III, p. 129; Ruiz de Alacrón, pp. 143–55.

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Note 67: Hernández Sáenz, p. 150.

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Note 92: AGN, *Inquisición*, t. 1392, e. 22, ff. 357–71; AGN, *Inquisición*, t. 1433, e.25, ff. 215–24, cited in Quezada, pp. 39; Viesca Treviño, "*Curanderismo* in Mexico and Guatemala," pp. 58–60.

Note 93: Ololiuhqui: psychotropic plant (Rivea corymbosa) whose active ingredients, the alkaloids D-lysergic and D-isolysergic acids, cause visions and "mystical" experiences in someone who ingests it.

Note 94: Quezada, pp. 71–92; Hernández Sánez, p. 39; Ortiz de Montellano, pp. 162–81.

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Note 97: AGN, *Inqusición*, t. 1300, exp. 12, ff. 175–364, cited in Quezada, p. 116.

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Note 110: Ricard, p. 156.

Note 111: See John S. Leiby, "San Hipólito's Treatment of the Mentally Ill in Mexico City, 1589–1650," *The Historian*, 54:1 (Spring 1992), 491–8.

Note 112: Risse, "Medicine in New Spain," pp. 38–42; see also Guillermo Fajardo Ortiz, *Breve historia de los hospitales de la Ciudad de México* (México: Asociación Mexicana de Hospitales, A.C./ Sociedad Mexicana de Historia y Filosofía de la Medicina, 1980); Josefina Muriel, *Hospitales de la Nueva España*, 2 vols. (México: Publicaciones del Instituto de Historia, 1956); Risse, "Shelter and Care," pp. 70–3.

Note 113: Risse, "Medicine in New Spain," p. 38, royal decree can be found in Diego de Encinas, *Cedulario Indiano*, 4 vols. (1596; rpt. Madrid: Ed, Cultura Hispánica, 1945), Vol. I, folio 219, cited by Risse, p. 38.

Note 114: Lindsay Granshaw, "The Hospital," in *CEHM*, Vol. II, p. 1180.

Note 115: Risse, "Medicine in New Spain," p. 42.

Note 116: Muñoz, Diego, O.F.M. "Descripción de la Provincia de los Apóstoles San Pedro y San Pablo en las Indias de la Nueva España," in *AIA*, Nov.–Dec. 1922, p. 399, cited in Ricard, pp. 157–8.

Note 117: Risse, "Medicine in New Spain," p. 40 and 42.

Note 118: Guerra, Francisco, "The Role of Religion in Spanish American Medicine," in *Medicine and Culture* (London: Wellcome Institute of the History of Medicine, 1969), p. 183.

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Note 119: *Gaceta de México*, "México," enero de 1737, t. I, no. 110, pp. 875–7; "Puebla de los Angeles," noveimbre de 1736, t. I, no. 74, p. 587; "México," septiembre de 1733, t. I, no. 70, p. 553.

Note 120: Kathrine Park, "Medicine and society in medieval Europe," in *Medicine in Society: Historical Essays*, ed. Andrew Wear (Cambridge: Cambridge University Press, 1992), pp. 72–4.

Note 121: Jorge Durand and Douglas S. Massey, *Miracles on the Border: Retablos of Mexican Migrants to the United States* (Tucson: University of Arizona Press, 1995), pp. 45–6.

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