Ethnomedicine 6

The Worlds of Treatment and Healing

Formerly, when religion was strong and science weak, men mistook magic for medicine; now, when science is strong and religion weak, men mistake medicine for magic.

—Thomas Szasz, *The Second Sin* (1973)

Introduction and Overview

In chapter 3, we examined conceptions and explanations of health, disease, and illness with which people around the world operate. In this chapter, we introduce the notion of ethnomedicine in order to demonstrate that all medical systems, be they national guises of biomedicine or indigenous medical systems or folk medical systems in complex societies, either preindustrial or postindustrial, are part and parcel of culture and society. We also discuss how various anthropologists have attempted to categorize medical systems. Finally, we introduce an evolutionary model of disease and healing systems drawing on the work of others that examines how various types of societies ranging from nomadic foraging to postmodern societies seek to explain the causes of illness as well as the categories healers use to identify and treat sickness.

Approaching Ethnomedicine

Historically, health anthropologists have devoted considerable attention to the study of medical systems in indigenous or tribal societies, in peasant communities, and among subgroups of urbanites in developing nations. Even before the emergence of medical anthropology or health anthropology as a named area of specialization within anthropology, ethnographers recorded data about health beliefs and practices, including healing techniques, in indigenous societies. Medical systems in indigenous societies and peasant communities and among other ordinary peoples have often been defined within anthropology as "ethnomedicines." Charles Hughes (1978:151), a renowned health anthropologist, defined ethnomedicine as "those beliefs and practices relating to disease which are the products of indigenous cultural development and are not explicitly derived from the conceptual system of modern medicine." However, many medical anthropologists since Hughes did his seminal work have noted that biomedicine also constitutes an ethnomedical system, one that has diffused from Western societies to many other societies around the world. An elaborate overview of the purview of ethnomedicine is summarized in table 6.1.

TABLE 6.1 The Purview of Ethnomedicine

Domain	Concerns
Ethnomedicine of the body	
Body image	Relationship between culturally specific images of the ideal body and their relationship to health beliefs and practices
Ethnophysiology	Cultural conceptions about body structure and function, including internal organs
Ethnomedicine of the mind	
Ethnopsychiatry	Culture and recognition of mental illness Culture and expression of mental illness Culture and occurrence of mental illness
Ethnopharmacology	Focuses on drugs or medicine utilized within specific cultures

Source: Adapted from Quinlan (2011).

Ethnopsychiatry or culture psychiatry as a sub-genre of ethnomedicine concerns itself with *culture-bound syndromes*, such as *latah* in Indonesia and Malaysia, which refers to highly exaggerated reactions to various stimuli, *susto* in Latin American cultures, which is a response to a frightful experience, and *pibloktoq* among the Inuit of the Arctic region, which entails tiredness or confusion accompanied by an outburst of culturally inappropriate behavior, such as tearing off one's clothes, frantic running, or rolling in the snow. Anthropologists view these conditions as cultural idioms of distress. They serve as cultural vehicles through which to express emotional upset in the form of physical symptoms that draw the attention and support of significant others and the broader community. Within different cultural systems, different body organs may be the focus of these syndromes. In Iran, for example, the heart is a common focus, while in China the liver, kidneys, or spleen tend to be emphasized. As a result of globalization and enhanced global communication on the internet and in the media, questions have been raised about the disappearance of culture-bound syndromes, although it is increasingly clear that various syndromes that once were regarded as culture-bound are more widely dispersed than was originally realized and global communication may be a factor in the spread of these conditions.

Ethnographers, including those working in the anthropology of religion, have long been fascinated by the shaman, a part-time religious healer who contacts the supernatural realm, often by going into a trance, in order to alleviate the distresses and diseases of his or her patients. Others have been struck by the role of the modern biomedical physician, a healer with unparalleled technological resources for measuring, visualizing, and treating disease who still must deal face-to-face with a nervous patient in need of as much care as cure, such as the patient interacting with a podiatrist in figure 6.1.

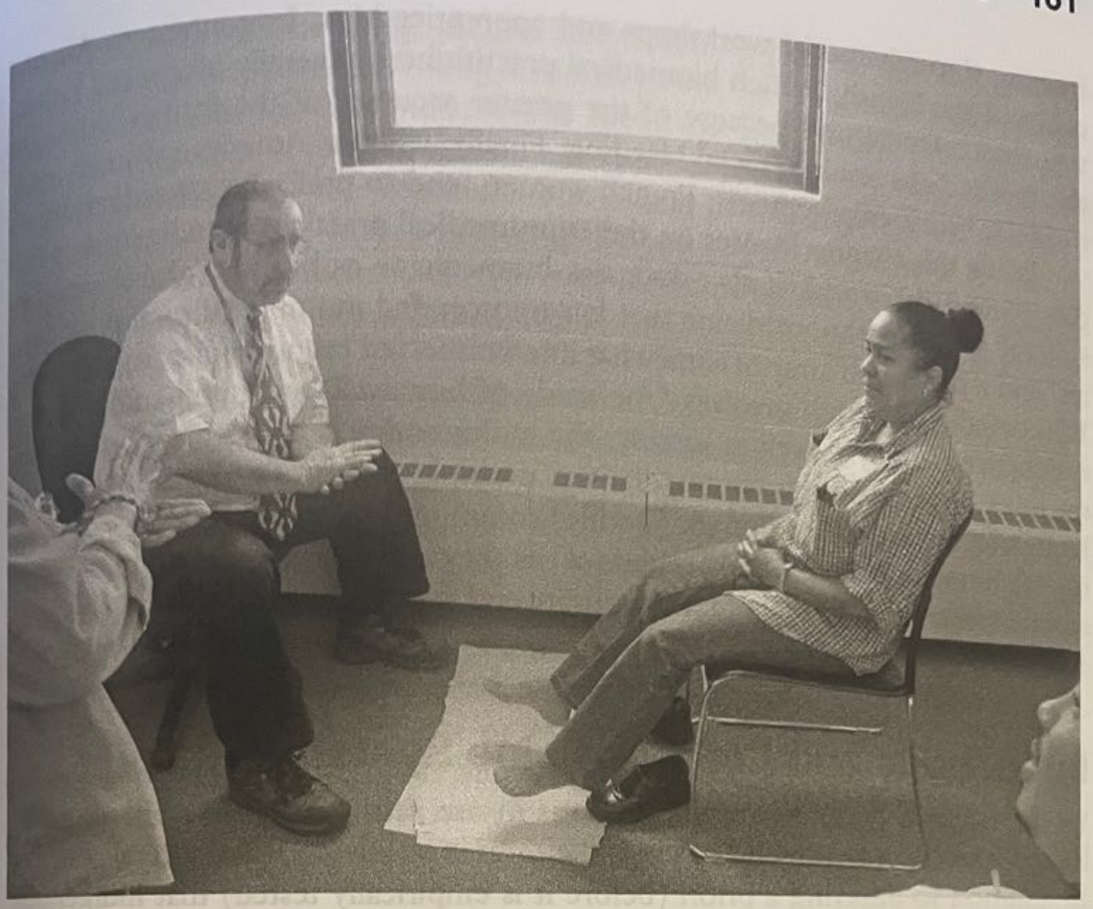

FIGURE 6.1 Podiatrist examining a diabetic patient's feet at health program organized by medical anthropologists and public health activists. Photo by Merrill Singer.

In reality, all medical systems constitute ethnomedicines in that they developed from and are embedded in particular sociocultural systems, regardless of whether they are small-scale or state societies. In this sense, all healers, from shamans to cardiovascular surgeons, are ethnohealers, even though the latter have far transcended the boundaries of any single ethnic group or population because their orientation to healing is rooted in Western culture (Erickson 2008).

Moreover, as Lynn Payer (1988) notes in her highly entertaining and readable book *Medicine and Culture*, biomedicine is shaped by its specific cultural or national setting, as she found to be the case in France, Britain, Germany, and the United States. American biomedicine relies much more on invasive forms of therapy, including cesarean sections, hysterectomies, breast cancer screenings, bypass heart operations, and high dosages of psychotropic drugs, than does biomedicine in the other three countries. British physicians are less concerned about moderately elevated blood pressure and cholesterol counts than are their U.S. counterparts, and German physicians are much less likely to prescribe antibiotics than U.S. physicians. In large part, the latter pattern is because German biomedicine emphasizes the self-recuperative aspects of the body and has long been open to natural healing techniques. German biomedicine, in fact, consists of two varieties: (1) *Schulmedizin*, or "school medicine," which is taught in major medical institutions, such as Humboldt University and the Charité, and (2) *Naturheilkunde* (nature cure), in which biomedical physicians may acquire

training through special workshops and apprenticeships. In contrast to Americans and the British, French biomedical practitioners generally take rectal rather than oral temperatures because of the greater accuracy of the former although this method can result in rectal bleeding. Finally, whereas American women tend to prefer breast enlargements, French women tend to prefer breast reductions.

While this chapter focuses on the ethnomedical practices of indigenous peoples around the world, it also discusses biomedicine as both a "global medical system" (i.e., an ethnomedicine that has transcended multiple cultural boundaries) and a structured array of somewhat interconnected ethnomedical subsystems. Ethnomedical research involves "the study of how well-being and suffering are experienced bodily as well as socially; the multivocality [i.e., having many voices or, more precisely in this context, having multiple means of expressing different kinds of information] of somatic [bodily] communication; and processes of healing (their relative success and limitations) as they are contextualized and directed toward the person, household, community and state, land and cosmos" (Nichter 1991:138).

Indigenous and Folk Medicine Systems

While the term "primitive medicine" was in use in the early days of anthropological interest in health and healing, the term is problematic for several reasons. In addition to implying a priori (before it is empirically tested) that indigenous or folk medicine is not effective, it also lumps all nonbiomedical systems into one box, but in fact there is considerable diversity in such healing systems.

Ways of Healing

Indigenous societies often incorporate members of the community who function as a *therapeutic management group* into the healing process. All of these dimensions are exemplified among the Navajo where the singer (as healers are known in the Navajo or Dine tradition) constructs an elaborate sand painting depicting the Holy People and chants over the patient in order to reestablish harmony, the loss of which is believed to cause illness. As the singer destroys sections of the sand painting, it is believed that various aspects of the patient's sickness are eradicated. Traditional medicine, like Navajo healing, often stresses emotional catharsis for the patient and draws the supportive attention of fellow members of the community to the patient's illness. At the same time, Navajo healing has a naturalistic orientation, as is evidenced by its broad pharmacopoeia consisting of herbs, powders, teas, and animal substances (e.g., powdered insects, cow dung, and so on). The Incas of the Andean region practiced trephination, which entailed the removal of part of the skull in treating fractures or removing brain tumors, purportedly in order to release a malevolent spirit.

An estimated 25 to 50 percent of the substances in the traditional nonbiomedical pharmacopoeia of indigenous healers have been shown empirically to be effective as measured by conventional scientific and biomedical standards. Other naturalistic techniques found in traditional medicine include herbs, powders, bone setting, massages, sweat baths, and mineral baths, as well as the suturing

of wounds with various items, such as sinews among Native American groups, thorns among the Masai, and biting mandibles from the heads of termites among both Somalis and Brazilian Indians. The Aleut and Inuit people are adept surgeons as a result of a pool of anatomical knowledge that they have developed from their hunting of sea mammals. The Masai, in turn, operate on abscesses of the liver and spleen. Mayan healers in Belize, in a manner similar to that of traditional Chinese medicine and Ayurvedic medicine in India, rely upon pulsing as a diagnostic technique, accompanied by various indigenous healing prayers (Hatala and Waldram 2017).

People sometimes view healers from other cultures or societies as more powerful and efficacious than their own healers. For example, the Iraqw of northern Tanzania often seek healers from other ethnic groups, such as the Sukuma, the Ihanzu, the coastal Swahili, and ones from Somalia, even if these healers do not speak the Iraqw language. The Iraqw often state that "we believe the medicine of other's peoples to be stronger than our own" (quoted in Rekdal 1999:460). Cross-cultural healing may serve as a means of fostering social connections that prevent or reduce interethnic conflict and avoiding local healers who may be viewed as capable of malevolent or exploitative acts. Ironically, in developed societies, including the United States and Australia, large numbers of people have come to embrace non-Western medical systems, such as traditional Chinese medicine, Tibetan medicine, and Ayurveda.

Typologies of Healing Systems

In their efforts to summarize the broad diversity and range of health beliefs and practices found in a wide diversity of sociocultural systems around the world, medical anthropologists have created various typologies of conceptions of disease etiology within medical systems. One scheme, for example, offers a matrix of the geographic distribution of various ethnomedical theories of disease causation depicting that three types of causation beliefs are worldwide: biomedical understandings, theories of illness due to loss of internal balance within body systems, and acceptance that illness can be caused by exposure to someone with an "evil eye" (Erickson 2008). We present three alternative ethnomedical typologies here, although these by no means exhaust the range of schemes that have been developed. One of the earliest of these suggested that every medical system embraces both a "disease theory system" and a "health-care system" and, further, that medical systems include both an ideological component and a social structural component (Foster and Anderson 1978). The disease theory system includes ideas about the nature of health and ideas about the causes of disease or illness. This typology makes a distinction between personalistic systems and naturalistic systems. The former view disease as resulting from the action of a "sensate who may be a supernatural being (a deity or god), a nonhuman being (such as a ghost, ancestor, or evil spirit), or a human being (a witch or sorcerer)" (Foster and Anderson 1978:53). Naturalistic systems, by contrast, view disease as emanating from the imbalance of certain inanimate elements in the body, such as the male and female principles of yin and yang in Chinese medicine. Personalistic and naturalistic explanations are not mutually exclusive. The health-care system

refers to the social relationships and interactions between the healers and their patients. The healer may be assisted by various assistants and in the case of complex societies may work in an elaborate bureaucratic structure, such as a clinic, health maintenance organization, or hospital.

Another approach, one based on types of healers within an ethnomedical system, categorizes shamans, mediums, sorcerers, and priests as examples of personalistic practitioners, while they group herbalists, chemists, bodyworkers, and lay midwives into the category of naturalistic practitioners (Loustanunau and Sobo 1997). Herbalists are found in the great majority of societies and prescribe or treat patients using medicinal plants but also minerals, as is the case in the Madagascar village studied by Harper as described in chapter 2. Chemists or pharmacists dispense both over-the-counter and prescription drugs and in developing countries often give injections. Indeed, in developing countries, chemists, without a prescription from a biomedical physician, often dispense both brand name and generic drugs, including what are generally legally defined as controlled substances in developed countries. While surgery is a highly prestigious specialty within biomedicine, various individuals in indigenous and archaic state societies practice or did practice surgery. One common surgical technique of traditional surgery is trephination. The Incas have already been mentioned as practitioners of this surgical art, but many other types of surgery have been described in indigenous societies around the world. Bodyworkers are musculoskeletal specialists who massage or manipulate the body to alleviate muscular tensions or skeletal misalignments. Finally, lay, or "direct-entry," midwifery around the world has been the focus of much medical anthropological research (Davis-Floyd et al. 2001). Midwives have generally delivered infants in indigenous societies and continue to do so, particularly in developing countries but increasingly so in developed societies as well. In reality, specific healers may be a blend of the various types delineated by Loustanunau and Sobo, such as when humoral doctors act as both chemists and herbalists or healers mix naturalistic and personalistic techniques.

Individuals follow various paths in becoming traditional healers. One is by "divine selection," in which the prospective healer has a dream involving the visitation of a spiritual guide who reveals that the dreamer has been chosen to serve the people in this manner. Individuals who themselves have been healed from a serious disease commonly are chosen to become traditional healers, thus the term "wounded healer," which has even been applied as well to many professional psychologists and psychiatrists in modern and postmodern societies. In addition, individuals who desire to become healers may undergo an apprenticeship with an established healer, often a member of one's kinship group.

Allan Young (1976a), a health anthropologist with a strong interest in medical knowledge, has developed two separate models that focus on the way medical systems organize knowledge about diseases. In the first of these, he distinguishes between (1) internalizing systems, which focus on physiological explanations and biophysical signs that the healer can detect, indicating the nature of disease episodes (such is the case in biomedicine), and (2) externalizing systems, which stress events outside the sick body. In the latter, the disease-causing agents are

generally animate and even human or at least humanlike, such as a witch or a sorcerer. It is the healer's job to determine what events prompted the disease-causing agent to attack the patient, as is the case in Navajo medicine where the singer attempts to restore a balance between the patient and social group, natural environment, or the wider cosmos. Young argues that externalizing medical systems tend to develop into internalizing medical systems with growing social complexity.

In his second model, Young (1976b, 1977) posits two types of systems: (1) accumulating medical systems, which consist of accumulated, formalized teachings, generally in written form, that are shared with prospective practitioners in training institutions or with colleagues at conferences or in professional associations (e.g., biomedicine, Ayurveda and Unani in South Asia, and Chinese medicine), and (2) diffusing medical systems, in which practitioners generally do not share medical knowledge (thus making it rather diffuse or unsystematic) with one another and regard it to be secret (e.g., shamans and magical healers).

Finally, using a biocultural or medical ecological perspective, Horacio Fabrega (1997) has developed an elaborate scheme of medical systems on which we draw in this chapter and elaborate on in our discussion of medical pluralism in the next chapter. Fabrega proposes the abbreviation "SH" to refer to a hypothesized biological adaptation for sickness and healing (i.e., like the biological adaptations that have been made among desert-dwelling animals to allow them to live in great heat with limited moisture, species have also adapted to the survival challenge of sickness with healing behaviors). For example, he maintains that chimpanzees exhibit some basic behaviors, such as the use of leaves to wipe themselves and the use of leaf napkins to dab at bleeding wounds, suggesting a prehuman SH adaptation, but also observes that chimps exhibit some non-SH responses as well, such as aversion to and exploitation of sick group members. More recently, it has been discovered that certain species of caterpillars when infected with various diseases will eat plants that have chemicals that are effective against the specific attacking disease agent. Fabrega suggests that many of the SH characteristics of chimpanzees existed in early hominid societies and that SH became more refined during prehominid stages of human evolution, as is implied by the presence of healed fractures in some Neanderthal remains. He maintains that patterns of food sharing and reciprocity between the sexes provided a social context for the SH adaptation because the latter also entails cooperative behavior. Asserting that "SH constitutes the foundational material for the elaboration of medicine as a social institution," Fabrega (1997:70) argues that the providers of SH (i.e., healers) in early foraging societies were highly insightful individuals who possessed an elaborate knowledge of the social organization of their society.

An Evolutionary Model of Disease Theories and Healing Systems

Drawing on the work of several health anthropologists, we propose an evolutionary model of disease theories and healing systems, shown in table 6.2.

TABLE 6.2 An Evolutionary View of Illness Theories and Healing Systems

Type of Society	Purported Causes of Illness	Types of Healers
Nomadic foraging	Self, ancestors, gods, outsiders	Shamans, diviners
Village level—simple horticulturalists	Same as foragers plus group members as possible agents, simple ethnopathologies	Shamans, magico-healers, mediums, herbalists
Nomadic pastoralists	Same as simple horticulturalists and in some cases imbalances between hot and cold foods	Healers, mediums, exorcists, and sometimes religious healers associated with world religions
Chiefdoms—sedentary foragers and intensive horticulturalists	Same as simple horticulturalists	Healers, mediums, herbalists, shamans among sedentary foragers
Early state societies	Same as above	Same as above plus priests
Early empires/civilizations	Individual behaviors, moral failings, elaborate ethnopathologies, imbalances in body humors	Priests, professional physicians, folk and religious healers
Modern industrial societies	Germs, genes, lifestyles, highly elaborate ethnopathologies	Orthodox and heterodox professional physicians, religious and folk healers, diversity of additional healers
Postmodern societies	Same as above plus emotions interacting with body, return to humor theories in some medical subsystems	Same as above plus movement to integrate orthodox and heterodox modalities

Health, Illness, and Medicine in Family-Level Foraging Societies

Family-level foraging societies, such as Australian Aborigines and the Inuit of the Arctic region, tend to have shamanic healers who often employ idiosyncratic techniques that they try to conceal from other practitioners. The juncture of medicine and religion is particularly exemplified in the role of the shaman, who has been depicted by anthropologists, scholars of comparative religion, transpersonal psychologists, and New Agers as the prototypical traditional healer. The word "shaman" is a term associated with the Tungus, a reindeer-herding group in Siberia who use it to label a part-time religious healer who is in direct contact with the supernatural realm. Fascination with shamans harkens back to Russian scientific expeditions into Siberia in the seventeenth and eighteenth

centuries. Other terms used to refer to this practitioner include "magician," "medicine person," and "witch doctor." The shaman has one or more spirit guides at his or her command, may be male or female, and is often "called" by spirit familiars through dreams or visions. Shamans often are considered eccentric and have been described by various ethnographers as moody, highly introverted, highly perceptive and intelligent, and intimately aware of their sociocultural system. Shamans among the Chuckee people of Siberia often are homosexuals, and those in some societies may be transvestites. There are several ways by which individuals become shamans, including inheriting the position from a parent, receiving a "call" from a spirit, recovering from a serious illness, or possessing outstanding abilities, such as being an excellent hunter, having psychic abilities, or being insightful.

In essence, the shaman is a complex figure with a multiplicity of roles. As a religious intermediary, the shaman visits the supernatural realm to petition favors, including the curing of diseases; as a diviner, the shaman locates wild game for hunting or lost objects or diagnoses illness; as a judge, the shaman determines when people have violated rules, such as having eaten taboo food or expressed anger inappropriately; and as an entertainer, the shaman carries out elaborate performances, including dance, sleight of hand, ventriloquism, shaking the ceremonial tent by pulling a series of strings and thus simulating the entrance of the spirits, and wearing colorful costumes. As a healer and psychotherapist, the shaman uses both naturalistic and supernaturalistic techniques. Ritual healing techniques include soul retrieval, removal of disease-causing objects, exorcism, confession, and sacrifice.

Michael Winkelman (2000) argues that shamanistic practices induce extraordinary experiences and healing by producing integrative processes in the limbic system or paleomammalian brain. He further asserts that shamanism evolved during the course of human history as a practice for symbolically and psychophysiologically enhancing well-being, both in the shaman and in patients. In entering into an altered state of consciousness, the shaman—unlike the Haitian *houngan* described in chapter 2—is not possessed by the spirit guides but rather controls them in order to achieve many tasks, including healing, dream interpretation, divination, clairvoyance, handling of fire, communications with spirits of the dead, recovery of lost souls, mediation between the gods and mortals, and protection against spirits and malevolent practitioners. The shaman's curing ceremony functions as an important social event that provides a means of integrating the patient into the immediate social group but also contributes to the social and psychic unity of the larger collectivity.

Winkelman (2000:276) maintains that shamanistic practices serve as a "set of sophisticated traditions for managing self, emotions, and consciousness." He views shamanism primarily as a phenomenon of foraging or hunting-and-gathering societies but maintains that aspects of classical shamanism persist in later or more complex societies. Altered states of consciousness induced by shamanic mimetic rituals, such as chanting, singing, drumming, dancing, and other repetitive behaviors, may activate the human relaxation response that provided early human societies with a survival advantage (McClennon 1997). Shamanism may constitute one of the earliest forms of religion, which, like later

variants of religion, constituted an adaptation to inner anxieties and a culturally constituted defense mechanism for society facing significant environmental challenges or dealing with confusing and crisis-torn times (LaBarre 1980).

Shamans are found in societies such as the !Kung or San of the Kalahari Desert, the Semang of the Malay Peninsula, and the Jivaro of Bolivia. Winkelman argues that shamanistic practitioners and somewhat similar magico-religious healers are found in technologically more complex sociocultural systems. He maintains that sociocultural processes have contributed to the disappearance of shamans and other shamanistic healers. For example, in state societies, these practitioners are in competition with the monopolistic claims of institutional religions over which priests preside. The shaman does not completely disappear in modern state societies but goes underground in the form of spiritualists, faith healers, and New Age psychics and neoshamans.

Shamans among the !Kung

Most adult males and some adult females among the !Kung of the Kalahari Desert of Namibia and Botswana function as shamans and perform community healing rituals about four times a month. Several men, who are sometimes joined by women, dance around a fire and a group of singers, thus inducing a trancelike state of "boiling" energy, or *num*. The healers may also ingest plant substances that contain *num*. While in trance !Kung healers treat sick spectators by imploring the ancestral spirits to restore them to health. Among the !Kung and other foraging societies, shamanic healing techniques tend to be public because they are utilized by numerous individuals in the group. Healing techniques tend to be focused on immediate restoration of well-being or accommodation to death through ritual activities and social practices.

In a classic work on health-related issues among the Yirrakala or Yolngu, who were traditionally foragers, of northeastern Arnhem in the Northern Territories of Australia, two types of healers were identified: the *marrnggitj*, or traditional healer, and the *raglak*, or sorcerer (Reid 1983). Some individuals become a *marrnggitj* in the wake of a frightening supernatural experience in which a spirit confers healing powers on them. Ultimately, of course, the prospective traditional healer must have the ability to counteract sorcery or the work of the *raglak* to consistently attract patients. Reid found only two men, a boy, and a woman who still practice aboriginal medicine in the Yirrakala vicinity.

Not all foraging societies have shamanic healers per se. A case in point is the Penan, a group in Brunei Darussalam on the island of Borneo in Indonesia who were traditionally hunters and gatherers but who are in the process of being transformed into village horticulturalists. Voeks and Sercombe (2000) argue that the rudimentary medical belief system associated with their foraging lifestyle is a consequence of the fact that they did not suffer from many debilitating diseases, as was the case with surrounding village peoples. Nevertheless, the Penan do recognize the existence of numerous unnamed spirits that can inflict harm on humans for violating various taboos and rely on "dream readers" to divine the sources of illness episodes, but they often disregard the advice of these medical practitioners. The Hadza, a foraging people in Tanzania, do not have any medical specialists other than women who perform clitoridectomies. Every adult has

knowledge about medicinal plants and can treat anyone with an illness. In addition to shamans, the Toba, a traditionally foraging society that engaged in some horticulture, have herbalists (some of whom today are called *curanderos* and act as healers in Christian evangelical sects) and other specialists who treat specific illnesses, such as those found among infants and children.

Historically shamans have tensions with state societies and established churches (Oppitz 2013:25). Nordic state societies beginning in the eighteenth century confiscated drums used by Sami shamans. Siberian shamans encountered repression on the part of the Russian empire under Czar Peter the Great, the Russian Orthodox Church, and the Stalinist purges during the Soviet era. Buddhist lamas suppressed shamans in Mongolia and Tibet.

Health, Illness, and Medicine in Village-Level Societies

Village-level societies, such as the Ainu of Hokkaido in northern Japan and the Yanomamo in the Amazon basin of northern Brazil and southern Venezuela, are characterized by the appearance of specialized healers, elaborate healing ceremonies attended by community members, and an expansion of the sick role manifested, for example, in growing attention to the psychosocial needs of sick individuals. The healer role in these societies confers social power on "individuals selected in part because of their psychological, social and political as well as strictly medical talents" and who are in a position to "profit from positive and favorable outcomes of healing" (Fabrega 1997:99).

As is the case in foraging societies, shamans are also often found in village-level societies. For example, among the Yanomamo, shamans call the spirits, who take the form of tiny humanoids, to implore them to release their victims from disease. Conversely, women are the primary repositories of herbal lore that is derived primarily from wild plants but also from some cultivated ones. Yanomamo shamans, called *shapori*, in their capacity as "masters of the spirits" perform both benign and malevolent acts, curing members of their community but attacking and reputedly killing enemies in other villages (Jokic 2014).

The Fore, a New Guinea highlands horticultural people who, like the Yanomamo, had a village-level society at the moment of contact with European expansion, depend on what they call Dream Men or Smoke Men, healers who rely on dreams and hallucinations induced by inhaling tobacco smoke in order to identify offending sorcerers.

The Warao of Venezuela have three types of shamans: priest shamans, light shamans, and dark shamans (Wilpert 2004). Priest shamans induce a trance by consuming tobacco and take spirit journeys that take them past monsters to an ancestral mountain where they will eventually reside after they die. While still alive, however, they obtain assistance from the ancestors in punishing people who threaten harmonious relationships with the ancestors. Light shamans come from the land to the east where the sun rises and are connected with the Tobacco Spirit. While they use a sucking cure when treating patients, they function as assault sorcerers by casting arrow-like projectiles at enemies. Dark shamans are associated with the setting sun and Hoebo, a spirit that takes the form of a red macaw that drinks human blood. They are likened to vampires and blood-sucking insects.

The Dani, a horticultural village people who also inhabit the New Guinea highlands, have two types of magico-religious healers. One type is the *hathale*, who tend to be women who carry out a variety of medico-religious functions, ranging from serving as midwives, carrying out abortions, administering medicinal herbs, and performing simple curing ceremonies or even allegedly casting spells. The other type includes political leaders who seek to appease the ancestral spirits by sacrificing pigs in order to ensure fertility both among women and in garden plots as well as general health and prosperity.

Robert Desjarlais, a medical anthropologist, participated in some twenty healing rituals as a shamanic apprentice to a sixty-five-year-old healer called Meme during his fieldwork among the Yolmo Sherpa, an ethnically Tibetan horticultural people residing in the Helambu region of north-central Nepal. Desjarlais (1992:241) notes that while Yolmo shamans often are not successful in their efforts to cure primarily physical ailments, such as arthritis or tuberculosis, "they are adept at healing illnesses related to personal distress or social conflicts (especially when compared with biomedical treatments)."

Recovered patients in various horticultural village societies became members of curer societies or sodalities. The Ndembu, who reside on a wooded plateau in the Mwinilunga District in the North-Western Province of Zambia, are a case in point. According to Victor Turner, a diviner who diagnoses the source of patients' afflictions resulting from an offended spirit directs his clients to a senior practitioner who propitiates the spirit and assigns a "band of adepts, consisting of persons who have themselves undergone as patients or novices" portions of curative ritual. He observes, "If the patient is deemed to be cured, he or she may then assist at later performances as an adept" (Turner 1968:16). Whereas the term "wounded healer" was initially applied to shamans (Eliade 1964), the concept may also be applied to other types of healers, including diviners or *ngoma* practitioners in Swaziland of southern Africa. In Swazi traditional healing the person possessed by an evil spirit can be healed while undergoing training as a diviner. Furthermore, "suffering certainly is a lived reality for diviners, but as a sign of a calling it is also an ideology" (Reis 2000:73).

Health, Illness, and Medicine in Pastoralist Societies

The Datoga, a pastoral people in Tanzania, make a distinction between an "illness of God" and an "illness of human beings," although many illnesses may be ascribed to both agents. Human-caused illnesses include witchcraft (generally believed to emanate from neighboring indigenous groups), the evil eye, and the administration of poisons. Male healers belong to one of two healing clans and treat patients by spitting on their bodies as a type of blessing ritual that may be combined with the application on patients' bodies of mixtures of herbs and animal fat. Women healers, who are far fewer in number, function as mediums through which patients can petition the spirits for advice or a cure. The Tuareg, a traditional pastoral people found in the Saharan and Sahelian areas of West and North Africa who have been heavily influenced by Islam, believe that disease may be a result of imbalances of hot and cold in the body, malicious gossip, or sorcery. The Tuareg have a wide array of healers to which they can turn, including

herbalists, bonesetters, Islamic religious healers, diviners, and exorcists. Like many pastoral peoples around the world, the Tuareg have been influenced by the medical practices of other peoples, particularly the Hausa, another Islamic group. The Mongols, the most renowned and feared pastoral nomads in human history, blended their naturalistic practices, including massage, bone setting, midwifery, and shamanistic practices that called on spirits to alleviate disease or misfortune, with medical beliefs and practices from first Tibetan Buddhism and later Russian biomedicine.

Health, Illness, and Medicine in Chiefdom Societies

According to Fabrega (1997), chiefdom (or prestate) societies, such as those of Hawaii and the Maori of Polynesia; the sedentary foraging societies of the Pacific Northwest Coast; and early state societies, such as Sumer, a city-state in Mesopotamia, exhibit the beginnings of the "institution," or "system," of medicine, which includes (1) an elaborate corpus of medical knowledge that embraces aspects of cosmology, religion, and morality and (2) the beginnings of medical pluralism (a topic on which we elaborate in chapter 7), manifested by the presence of a wide variety of healers, including general practitioners, priests, diviners, herbalists, bonesetters, and midwives who undergo systematic training or apprenticeships. Traditional Maori recognize two categories of disease: *matetangata* (those caused by human mishaps) and *mate atua* (those caused by supernatural forces). As in other parts of Polynesia, both types of diseases emanated from a violation of a *tapu*, or social norm that invoked the wrath of the gods. *Tohunga*, or traditional healers, either recited chants to induce religious healing or prescribed medicinal plants.

Some male healers, or *fojo*, in Samoa, another Polynesian chiefdom society, are also chiefs, and some women healers are the wives of chiefs. The former tend to restrict their practices to kinfolk whereas the latter do not. Some *fojo* are general practitioners who treat a wide range of ailments and others are specialists who treat either natural illnesses or supernatural illness, or employ certain medical procedures, such as massage or administration of herbs. Healers also vary in their range and depth of knowledge of the disease etiology and diagnostic and treatment techniques (Macpherson and Macpherson 1990: 102, 117–18, 140).

Folk Healers in Modern Societies

A wide variety of folk healers continue to function in modern societies, particularly in developing societies but also in developed societies. These include herbalists, bonesetters, lay or direct-entry midwives, and religious healers. Even shamans persist in modern societies, including in urban areas. Indeed, shamanism has undergone a resurgence in parts of Siberia since the collapse of the Soviet Union, in large part as a form of ethnic identity. Indeed, the Russian government now recognizes shamanism as an official religious tradition.

Konstantinos Zorbas (2017) conducted 18 months of ethnographic research on shamanism in Kyzyl (population approximately 100,000), the capital city of Tuva Republic situated near the Mongolian border. Shamans in Kyzyl operate

either under the umbrella of three shamanic associations or independently. All shamans in Kyzyl both engage in healing rituals and place curses on individuals who have placed a curse on a client. Kyzyl residents often express hostile impulses through supernatural retaliation facilitated by a shaman, thus making shamans a "cultural equivalent of the justice system, by virtue of their 'supernatural' power (sanctioned by this culture) for redressing injustices" (Zorbas 2017:146).

Female Shamans in Central Asia

Many folk healers in modern societies are women. Ironically, while Islam only allows men to be religious leaders, known as *mullahs*, and while Islamic clerics in Central Asia sought to do away with shamanism, they were not successful in doing so and women found a niche as religious leaders within the parameters of shamanism. Razia Sultanova (2011), a scholar of female shamanism and Sufism, reports that in Central Asia shamanism took on a Muslim texture. For example, shamans in their ritual first appeal to Allah, then the Muslim saints, and finally to the helping spirits or *jinn* mentioned in the Quran. Female shamans in Central Asia have also embraced Sufism, a mystical form of Islam popular in Iran, Iraq, Central Asia, and North Africa, which traditionally is famous for induced trance-like behavior through ecstatic dancing. Central Asian women often play musical instruments that historically were associated with shamanism but became incorporated into Sufism.

Arab Women Healers in Israel

Israeli anthropologist Ariela Popper-Giveon (2015) has written a fascinating account of Arab women healers, referred to as *Sheikha*, *Darwisha*, *Haijah*, or *Fataha*, and their patients in Israel, a society in which they are a part of a heavily discriminated ethnic minority. She conducted ethnographic research on Arab women healers in two settings—urban Arab society in central Israel and Bedouin society in the Negev Desert. Arabs in Israel are discriminated against in numerous ways, including in terms of access to education, employment, health care, politics, and living areas. Other than a few urban Arab Christians, most Israeli Arabs are Sunni Muslims, at least culturally if not religiously. While Arabs living on the West Bank and Gaza live in apartheid-like conditions, Arabs living in mixed-population cities in central Israel come into contact with the Jewish population, even residing in the same neighborhoods, working together in factories and offices, and visiting the same shopping malls, restaurants, and cafés. They also listen to Hebrew radio stations and read Hebrew newspapers and their children often attend schools where they study with Jewish students who are numerically and sociologically the majority group. In contrast, the Bedouin Arabs living in the Negev Desert generally experience only indirect contact with Jews, finding themselves living in separate housing, attending separate schools, and participating in separate leisure activities. Bedouin Arabs in the Negev tend to speak primarily Arabic in everyday life and maintain contacts with people in Arab countries, particularly Jordan and Lebanon and even Saudi Arabia.

Popper-Giveon worked with a sample of twenty women, five women healers and five patients in her urban group and five women healers and five patients in her Negev group. Most of her informants were fairly fluent in Hebrew, particularly those living in urban settings. Popper-Giveon (2015:26) describes her position as a Jewish Israeli woman studying Arab Israeli women as an outsider-insider, noting that in some ways she was alien to the women whom she interviewed and in other ways she was a kindred spirit in that she conducted the interviews in Hebrew and in her own country.

Traditional Arab women healers in Israel rely on a wide array of treatment techniques. The amulet (*hajab*), however, is a central device used in healing, particularly in the treatment of problems induced by the evil eye or magic spells: "despair, depression and anxiety; extended bachelorhood; sterility and livelihood problems" (Popper-Giveon 2015:84). Arab women healers also often read verses from the Quran in treating problems emanating from magic spells or the evil eye. Magical potions, consisting of bodily organic matters, such as menstrual blood, secretions, nails, hair, and urine may be used in counter-spells to ward off evil caused by an enemy. They may also be used as love charms for arousing a man's desire or maintaining a woman's fidelity and love.

Popper-Giveon contends that the traditional Arab women healers and their patients in her study experience dual discrimination, as members of the Arab minority and as members of a patriarchal Muslim community. She maintains that traditional Arab healing constitutes a coping mechanism for both the healers and patients in her sample in dealing with the numerous personal and social vagaries in their lives. Women healers achieve personal power, self-esteem, economic benefits, and respect from their families and communities. Women patients also feel personally empowered by the treatments that they receive, not only ritually but in terms of advice and social support.

Conversely, the traditional Arab women's healing complex does not pose a threat to the repressive structure of Israeli society, even if it constitutes the ultimate source of patients' problems. As Popper-Giveon (2015:255) observes, the "healers do not involve themselves in the overt public activity of various organizations and governments agencies, nor do they join forces with one another to consolidate and entrench their power." In reality, the healers often compete with each other for their patients' affection and financial payments. Furthermore, Arab women's healing serves to reinforce traditional patriarchal patterns.

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Case Study: Are the Therapeutic Aspects of Religion Something That Partially Address Refugee Health Problems?

In chapter 2, we touched upon migration and refugee health issues, a topic that organizations such as the UN, WHO, and the World Bank have acknowledged. The United Nations (2017) estimates that 65.6 million people were internally displaced worldwide in 2017 for a wide variety of reasons, such as civil

wars but even in order to move indigenous and peasants in order to protect endangered animal species and environmental degradation purportedly caused by these populations. While environmentalists often support such programs, they often overlook the social and health impacts upon the displaced populations. Anthropologist Jeffrey G. Snodgrass and two of his colleagues in other disciplines investigated in a highly quantitative manner the mental health benefits of religious rituals among indigenous Sahariya conservation refugees who had been displaced from a wildlife sanctuary in central India to make room for Asiatic lions from a neighboring area (Snodgrass et al. 2017). Bronislaw Malinowski (1954), a pioneer anthropologist, discussed how magical and religious rituals serve to alleviate anxiety and instill a sense of personal empowerment in uncertain situations, ranging from hunger, the danger of predation, whether the crops will grow, or the possibility of death in particular. Conversely, other anthropologists have argued that religion can instill anxiety and fear in people in that it often poses the possibility of punishment from ancestral or other spirits for violating social norms. Fundamentalist Christians often argue that unrepented sin can result in eternal damnation in hell.

The Sahariyas are one of some seventy-five proto-horticultural, largely foraging groups, referred to as *Adivasis*, meaning "first inhabitants" or "aboriginal peoples." They are poor, generally illiterate, and live in remote geographical areas, but historically have formed linkages with Hindu communities with whom they exist in patron-client relationships. Sahariya have adopted Hinduism and participate in Hindu festivals, such as Holi, the Hindu Festival of Colors, and Navrati, the Nine Nights of the Goddess, which occurs shortly after Holi.

The research team surveyed 159 Sahariya heads of households, 78 in a relocated village called Maziran and 81 in a buffer zone control village called Behruda. It proposed four hypotheses:

> H1. Health indicators would improve over the course of the festivals, with the greatest improvement occurring at peaks in the celebration;
> H2. Health improvements would be greatest among the more affluent Sahariya;
> H3. Health improvement would be affected by perceived insecurity;
> H4. Health improvement would be the greatest for Sahariya who were suffering from a more serious psychiatric ailment.

The team measured diurnal cortisol, stress, and PANAS (Positive and Negative Affect Schedule) levels for each subject over the course of the festivals. Based upon these measures, they found that ritual participation in both Holi and Navrati "promotes positive over negative psychosomatic experience" (H1; Snodgrass et al. 2017:271). The researchers also found physiological and psychiatric support for hypotheses 2, 3, and 4.

■ ■ ■

Biomedicine as the Predominant Ethnomedicine in Modern Societies

Various scholars have debated the time of the emergence of biomedicine and its branching off from the traditional allopathic medicine that was practiced, for example, during the colonial era in the United States. Michel Foucault argued in *The Birth of the Clinic* (1975) that biomedicine emerged around 1800 in Europe as it systematically began to classify diseases into families and species and focused more on the body, thus the term the "clinical gaze," than on the ill person. According to Foucault (1975:169), "Clinical experience sees a new space opening up before it; the tangible space of the body . . . the medicine of organs, sites, causes, a clinic wholly ordered in accordance with pathological anatomy." He went on in subsequent writings to portray medicine as one of a series of forms of social control, along with the state and prisons. Chrystal Jaye and her colleagues apply Foucault's social constructionist analysis of biopower to biomedical education at the University of Otago on the South Island of New Zealand (Jaye et al. 2006). Based upon interviews with preclinical medical students, clinical instructors, and medical educators, they observed that the new crop of biomedical students is expected to be more humane, compassionate, and culturally sensitive than their mentors, in essence internalizing new forms of subjectivity:

> These new subjectivities are subject to scrutiny through surveillance techniques that assess behaviours and attributes such as reflectivity, self-awareness, patient-centredness, humanitarian values, ethics and maintenance of professional boundaries. Mechanisms of formative and summative feedback constitute regimes of normalizing judgment from teachers—but these normalizing judgments are also exercised through subtle positive and negative reinforcements from within the learning environment as successive generations of doctors teach the new generation what it needs to know. (Jaye et al. 2006:150–51)

In contrast to the social constructionist perspective adopted by Jaye and her colleagues in their analysis of biomedical education, Brian McKenna (2010) applies a critical medical anthropological perspective in his analysis of biomedical education at Michigan State University. He examined a six-year project called the Community/University Health Partnership, which aimed to produce more community-oriented primary care practitioners. Because the project challenged biomedicine's orientation toward curative care, professional rivalry, overspecialization, and hospital-based education, it met with stiff resistance and ultimately collapsed, despite support from a dean who ultimately resigned from his position.

Biomedicine is often depicted as an example of a profession par excellence because its physicians generally enjoy prestige, high incomes, relative autonomy over work, and a monopoly over the prescribing of dangerous drugs, declaring people mentally incompetent, signing birth and death certificates, and referring patients to other health practitioners. Freidson (1970) likens the position of biomedicine in modern societies to that of state religions in preindustrial civilizations. But state religions as instruments of social control were always subordinate to the wishes of ruling elites of their societies. Thus, the professional dominance

of biomedical physicians is *delegated* rather than *absolute*. The corporate class and its political allies in advanced developed and many developing societies delegate power to biomedicine in the form of financial support and licensure or statutory registration (Baer 2001:46–47). Biomedical physicians also often are highly represented on the registration boards of other biomedical health practitioners, such as nurses and allied health professionals. They also tend to be overrepresented on hospital boards, government health departments, health advisory boards, the National Institutes of Health, and the World Health Organization. Nurses and allied health workers often embark upon drives for professionalization that emulate the training and organizational structures of their biomedical superiors.

In recent decades, biomedical physicians have encountered challenges to their professional dominance from several quarters, including new models of health focused on prevention, the social determinants of health, and community; the rise of corporate medicine with its strong emphasis on managed care; the changing nature of state involvement and regulation, which includes cost-cutting measures and performance indicators; the lessening public status of biomedicine due to media exposés of medical fraud and negligence; the recognition of patient rights; and the increasing popularity of complementary and alternative medical systems. Beginning in the early 1970s, particularly in the United States, an increasing number of biomedical physicians became salaried employees rather than independent entrepreneurs. Scholars began to see biomedicine as a "big business" manifested in an array of large health-care corporations and proprietary hospitals that were part and parcel of a medical-industrial complex (Wohl 1984). While biomedical physicians tend to enjoy considerable prestige in most societies, in some developing societies their status is relatively low or declining. For example, in Mexico, biomedical physicians constitute the least prestigious profession out of the ten most popular professions and earn less than engineers, lawyers, and architects (Harrison 2000:301–2). In 1993 about a quarter of Mexican biomedical physicians were unemployed or underemployed, although many rural areas lacked biomedical physicians.

Hospitals

The hospital is the primary biomedical health-care setting in the provision of not only acute care but also outpatient services, such as lab work, X-rays, physical therapy, and programs addressing alcohol and drug addiction, weight reduction, and fitness. The hospital started out as a charitable institution that served as a last resort for the critically ill poor. In the nineteenth century, affluent patients received health care at home administered by either a house-calling physician or a full-time private-duty nurse. Hospitals come in different forms, such as voluntary community hospitals, or religiously supported hospitals, proprietary hospitals, and public hospitals. Hospitals may be general in scope or specialized, such as in the case of mental or heart hospitals.

The hospital has evolved into an elaborate social system with subsystems and a wide array of occupational subcultures, including those of administrators, physicians, nurses, medical technologists, and even patients. The hospital is a highly

authoritarian (some would even say quasi-militaristic) organization where orders are to be executed without question. It manifests a dual pattern of authority consisting of (1) administration, which includes a board of trustees, administrators, and paid staff, and (2) medical staff, some of whom are paid employees but others who are visitors, and an elaborate occupational support structure that includes nurses, nurse aides, medical technologists, therapists, social workers, orderlies, and (in teaching hospitals like the one studied by Katz as described in chapter 2) medical students as well as, sometimes, medical anthropologists. Registered nurses function in two worlds in that they are responsible for carrying out administrative policy and regulations and serve as the physicians' representative on the floor by carrying out orders for patients. At the same time, nurses have struggled to define their own arena of expertise, emphasizing the "care" aspects of healing as opposed to the "cure" activities undertaken by physicians. Increasingly, however, with the rise of the nurse-practitioner and related roles (e.g., nurse-anesthesiologists), nurses have penetrated the curer role as well.

Patients often experience *culture shock*, a term used by anthropologists for adjusting to the challenges of life in a culture that is foreign to them, on being admitted to the hospital because they undergo an ordeal of depersonalization, loss of self-identity, exposure to unfamiliar jargon, and a "stripping" process in which they must check their personal belongings and forgo many preferences. They find themselves in a state of total or near-total dependency in which they are fed meals not of their own choosing, may be bathed by strangers, receive medications at all times of the day and night, and must wear standardized, ill-fitting, and, for many people, far too revealing clothing. Poked, prodded, questioned, and awakened for testing at odd hours, they often respond by trying to personalize their immediate space by decorating their room or section of a room with gifts from friends and relatives or pictures from home, sometimes getting cranky or resistant, and, for many people, asking frequently when they can "go home." Hospitalization, in short, is often experienced as a kind of sacrifice that is endured in exchange for the hope of returning from the world of the sick to the land of the well.

An increasing number of health anthropologists conduct both teaching and research activities in hospitals. Some of this work is carried out by physician-anthropologists, but even more of it is carried out by nurse-anthropologists, many of whom belong to the Council of Nursing and Anthropology, a constituent unit of the Society for Medical Anthropology. Within this context, some health anthropologists are involved in what is termed clinical anthropology or clinically applied medical anthropology. Much of this work occurs in hospitals or other clinical settings and often involves the anthropologist serving as a cultural translator who facilitates the physician-patient relationship. In contrast to sociologists Gail Henderson and M. Cohen, who produced a book-length ethnography of the Second Attachment Hospital complex on the outskirts of Wuhan, the fifth-largest city in China, no anthropologists to date have conducted an ethnography of an entire hospital.

Nevertheless, in keeping with a growing interest in hospital ethnography, Anna Harris (2009), a biomedical physician, conducted an in-depth study of how

Nurse-Anthropologists and Physician-Anthropologists

Many nurses have found anthropology and specifically health anthropology to be of great utility in their work. Consequently, numerous undergraduate nursing programs require their students to take a course in cultural anthropology, and many nursing schools now teach courses in health anthropology and related subjects. Indeed, many of the people teaching these courses are nurses who have obtained graduate degrees in health anthropology. Some anthropologists have argued that, in contrast to biomedical physicians, who tend to be "disease oriented," nurses are inclined to be more "person oriented." Conversely, while many biomedical students regard medical anthropology and related fields to be intrusions in their demanding studies, medical anthropology includes some prominent physician-anthropologists, including Arthur Kleinman and Paul Farmer, both of whom are based at Harvard University and have had significant productive influence on health anthropology.

overseas biomedical physicians, particularly ones from developing countries, in two outer suburban hospitals in a large Australian city have adjusted to the larger national health-care system as well as the larger society. In addition to learning about a different hospital system and its biomedical routines and procedures, they spent much of their time "improving their English language fluency, sorting out their visas, making sure their families were settled and they had a decent salary to support them." In addition to occupying the less prestigious positions in urban hospitals, overseas biomedical physicians in Australia increasingly find themselves practicing in "country towns" or rural areas, places that domestic Australian general practitioners and specialists have in many instances abandoned. Beyond the hospital is the clinic or health station, often set up in more isolated, lower population density, and rural areas to serve the health needs of dispersed communities. The health station, like the one studied by Leslie Butt (figure 6.2), is especially important in areas with limited health budgets and comparatively fewer medical professionals.

As health anthropology has evolved, it has taken on new topical interests, including ones intimately related to biomedicine. Two of these new topic interests are pharmaceuticals and biotechnology, both of which touch on the anthropology of the body.

Health Anthropology and the Pharmaceutical Industry

Health anthropologists have become increasingly aware of the importance of studying the enormous pharmaceutical industry; pharmaceutical drugs are dispensed around the globe with tremendous impact on health and health behavior and are used in ways that are culturally meaningful, whether or not they are in line with or reflect medically approved patterns of use. Etkin (1988), for example, has examined the cultural construction of the efficacy of pharmaceutical drugs

FIGURE 6.2 Government health post i
by Leslie Butt.

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FIGURE 6.2 Government health post in the highlands of western Papua New Guinea. Photo by Leslie Butt.

in light of varying cultural understandings of what efficacy means. While pharmaceutical drugs are intended to have specific physical, emotional, or behavioral effects, their effectiveness may be judged by quite different standards in local cultural settings.

Moreover, to understand the impact of the pharmaceutical industry we must recognize its global character: "a pharmaceutical company might have its corporate headquarters in the United States, [test its drugs in Uganda], produce its drugs in Ireland, assemble its capsules in Brazil, and sell the products in Bolivia" (Bodenheimer 1985:190). Furthermore, pharmaceutical/biotechnology companies cannot be pinpointed to one location; they function as any multinational corporation does, worldwide (Mehrabadi 2005). Operations are carried out depending on the price of labor, where raw materials are the least expensive, where taxes can be easily evaded, and where market regulations are the least strict.

As a result of the pharmaceutical industry's global reach, its products appear in societies that lack a developed health-care infrastructure, sometimes with dramatic effect. In the case of El Salvador, for example, the arrival of pharmaceutical drugs pushed out locally produced indigenous medicines and the healers who

produced and dispensed them (Ferguson 1981). Local community structures then began to break down. In a similar case in South India, the traditional use of herbal remedies has been overwhelmed by the widespread sale of pharmaceutical drugs, which were associated by local populations with modernity and progress (Nichter 1989). By using Western medicines, in effect, people are attempting to reap the benefits of development, including the standard of living and concentration of wealth found in Western countries. In this sense, pharmaceuticals sometimes acquire culturally constructed fetishized qualities in the same sense that possessing a lucky charm will bring personal fortune. The popularity of pharmaceuticals internationally has led to the formation of an informal sector for the distribution of commercial drugs, such as folk injectors who give single shots of antibiotics in community markets in various countries. Given the need for receiving a course of antibiotic treatment, not only is this emergent folk practice ineffectual from a medical standpoint, but it can also contribute to the development of strains of bacteria that are drug resistant. In Cameroon, for example, there is evidence not only that self-medication with pharmaceutical drugs can be detrimental to health but also that the available resources of low-income households are wasted on useless medication (van der Geest and Whyte 1988).

Moving from the micro level to the macro level, we can see that because pharmaceutical corporations are profit driven, their actions are not necessarily shaped by a health agenda, sometimes with significant health consequences. For example, in 2005 the pharmaceutical company Eli Lilly agreed to plead guilty to a single misdemeanor count and to pay a fine of $36 million for its violation of the Food, Drug, and Cosmetic Act in its promotional campaign for the anti-osteoporosis drug Evista (Corporate Crime Reporter 2005). According to this law, pharmaceutical companies must specify the medical purpose(s) of new drugs in their applications to receive marketing approval from the Food and Drug Administration (FDA). Once the FDA approves a drug, it can be legally promoted and sold only for the purposes for which it has been approved. Promotion for what is called "off label" uses is outlawed. In the case of Evista, Lilly executives were disappointed with sales levels during the first year that the drug was on the market; it brought in only about a fourth of the projected annual sales of $400 million. To make up for this loss in expected income, Lilly decided to widen the market for its drug by promoting it for several unapproved uses. Although application by Lilly to the FDA to include these new uses was rejected, the company began pushing use of the drug in the prevention of breast cancer and cardiovascular disease. The consequences of such action are not trivial in that doctors, assuming that the drug is effective in cancer and heart disease prevention, may prescribe it instead of drugs that have proven in clinical trials to be effective in treating these diseases. In its expanded promotion efforts, Lilly used a variety of strategies, including training sales representatives how to get physicians to ask about other uses of Evista, sending unsolicited medical letters to physicians promoting unapproved uses of the drug, distributing an "Evista Best Practices" videotape that states that "Evista truly is the best drug for the prevention of all these diseases" (referring to osteoporosis, breast cancer, and cardiovascular disease), and distributing a medical reprint highlighting findings about the various

benefits of Evista that was written by company employees and paid consultants while hiding a line in the reprint that acknowledged that the effectiveness of the drug in reducing cancer risk or cardiovascular disease had not been established, among other legerdemain strategies to promote and sell Evista (M. Singer 2007).

In another case involving the painkiller Vioxx in which it appears that improper procedures were followed in clinical trials, it is estimated that at least 25,000 heart attacks and strokes occurred after taking the drug (Bazerman and Chugh 2006). In the estimation of one pharmaceutical drug expert, David Graham, associate director for science in the Office of Drug Safety at the FDA, Vioxx may have contributed to the deaths of 88,000 to 138,000 people, putting it at the top of the list of known deadly pharmaceuticals to be released to the public (M. Singer and Baer 2007).

In summary, this chapter starts out with a discussion of several domains of ethnomedicine, such as ethnophysiology, ethnopsychiatry, and ethnopharmacology. It also considers various indigenous and folk medicine systems; typologies of healing systems; an evolutionary model of disease theories and healing systems; biomedicine as the predominant ethnomedicine in modern societies with the hospital as the central biomedical institution; and the relationship between health anthropology and the pharmaceutical industry.

Discussion Questions

1. Discuss the concerns of the various domains and sub-domains in Quinlan's overview of the purview of ethnomedicine (table 6.1). What might be some types of culture-bound syndromes other than the ones mentioned in this chapter?
2. Discuss the relationship between medicine and magico-religious rituals in traditional healing systems. Conversely, what types of naturalistic techniques are found in traditional healing systems around the world?
3. Based upon the evolutionary model of disease theories and healing systems elaborated upon in this chapter, discuss the general features of health, illness, and medicine in family-level foraging societies, village-level societies, pastoral societies, and chiefdom societies.
4. Give examples for the persistence of shamans and other folk healers in modern societies.
5. In what ways has biomedicine evolved into the predominant form of ethnomedicine in modern societies? Discuss the centrality of the hospital and the pharmaceutical industry to biomedicine.