



Medical Anthropology: An Introduction to the Fields

Peter J. Brown, Ronald L. Barrett, Mark B. Padilla

WHAT IS MEDICAL ANTHROPOLOGY?

To define medical anthropology, we must first introduce its parent discipline and some of its key concepts. Introductory anthropology courses usually begin with some variation of the short and classic definition, "Anthropology is the study of humankind." Although vague, this definition underscores that anthropology is a holistic and interdisciplinary enterprise that uses many different approaches to important human issues. In the broadest sense, these approaches are usually categorized into four major fields: cultural anthropology, physical or biological anthropology, archaeology, and linguistics.

Today, however, introductory courses are often the first and last place where anyone gives much thought to the relationships between the four fields of anthropology. In recent decades, anthropology has gone the way of many academic disciplines. Its fields and subfields have become increasingly specialized, each with its own lexicon and theoretical orientation. As a result of these increasingly specialized differences, the academic discussions between the fields of anthropology have diminished considerably, especially between many areas of biological and cultural anthropology. Such trends are unfortunate because the compartmentalization of anthropology often undermines the discipline's greatest strengths: its holistic approach and interdisciplinary nature.

Despite their specialized perspectives, cultural and biological anthropologists have a great deal in common. For example, one useful definition of *culture* is learned patterns of thought and behavior shared by a social group. (Anthropologists have many different definitions of *culture*, and the lack of complete agreement about this term might be considered evidence of the concept's centrality within the discipline.) Cultural patterns might be considered to have three basic, interconnected domains: (1) infrastructure—the domain of material and economic culture; (2) structure—the domain of social organization, power, and interpersonal

relations; and (3) the belief system or superstructure—the domain of symbols, cognitive models, and ideology. For example, in the traditional culture of a north Indian village, all three levels of the cultural system are important—in agriculture and the economy of the village, in the social organization of the caste system, and in the religious beliefs and rituals of Hinduism. The three domains are closely related, and they all satisfy human needs. Many anthropologists argue that the three domains of culture are influenced by the biological aspects of human experience as a social species living within an ecological setting. The human organism is an open system, highly permeated by cultural influences, many of which can have a profound impact on growth and development. Human biology and culture are intimately related, and it is important to have a holistic perspective on these interrelationships when studying human issues pertaining to health and sickness.

Medical anthropology is a relatively new area of specialization within anthropology. Medical anthropology is not really a subfield (like biological anthropology, archaeology, cultural anthropology, or anthropological linguistics), partly because these subfields generally have a central theoretical paradigm. Medical anthropologists use a wide variety of theoretical perspectives, and they do not agree on which ones are best. Therefore, medical anthropology is simply the application of anthropological theories and methods to questions of health, illness, medicine, and healing. As such, it may be more correct to refer to a variety of medical anthropologies.

Medical anthropologists engage in basic research on issues of health and healing systems as well as applied research aimed at improving therapeutic care in clinical settings or public health programs in community settings. The purpose of basic research is to expand knowledge; the purpose of applied research is to help solve specific human problems. There is a great deal that we do not know about the causes of sickness and the processes of healing, and anthropologists may contribute to the growth of human knowledge in these

important areas. The health problems facing people in all parts of the world are overwhelming and complex, and there is good evidence that anthropologists can contribute to the design and implementation of programs to alleviate these problems.

In regard to the four traditional fields of American anthropology, the most common type of anthropologist is a cultural anthropologist. Most practicing medical anthropologists were trained in cultural anthropology. On the other hand, as you will see by the selections in this book, biological anthropologists, archaeologists, and even anthropological linguists may be interested in and may contribute to studies in medical anthropology. Medical anthropology includes any of these subfields as they apply to issues of human health, sickness, and healing.

As is the concept of culture, the notion of health is difficult to define. According to the charter of the World Health Organization, health refers not merely to the absence of disease but to a state of physical, social, and psychological well-being (Dubos 1959). What constitutes well-being in one society, however, may be quite different in another. The ideal lean-bodied figure may signal health in the West but may indicate sickness and malnutrition in sub-Saharan Africa (Brown 1991). In the fishing villages that line Lake Victoria, the parasitic disease schistosomiasis is so prevalent that the bloody urine of young males is considered a healthy sign of approaching manhood (Desowitz 1981). In the United States, the "elegant pallor" and "hectic flush" of consumption (tuberculosis) were often mimicked at the turn of the century because of their association with famous writers and artists (Sontag 1978). Any conceptualization of health must therefore depend on an understanding of how so-called normal states of well-being are constructed within particular social, cultural, and historical contexts.

Sickness is an inclusive term that includes all unwanted variations in the physical, social, and psychological dimensions of health. Robert Hahn defines sickness as "unwanted conditions of self, or substantial threats of unwanted conditions of self" (Hahn 1995:22). These conditions may include "states of any part of a person—body, mind, experience, or relationships" (Hahn 1995:22). More specifically, the criteria that people use when they assign the term *sickness* to a given state is based on complex interactions between human biology and culture.

Sickness can be further divided into two basic categories: illness and disease. *Disease* refers to the outward, clinical manifestations of altered physical function or infection. It is a clinical phenomenon, defined by the pathophysiology of certain tissues within

the human organism. *Illness*, on the other hand, encompasses the human experience and perceptions of alterations in health as informed by their broader social and cultural meanings. The distinction between disease and illness is useful because it helps to explain the phenomenon of patients who seek medical attention in the absence of clinically identifiable symptoms (illness without disease) and those who do not seek medical attention even though they exhibit signs of pathophysiology (disease without illness).

This distinction also explains differences in the quality of communication and therapeutic exchange between patients and healers. For example, a physician using a disease model may see the patient's symptoms as the expression of clinical pathology, a mechanical alteration in bodily processes that can be "fixed" by a prescribed biomedical treatment. From the patient's perspective, however, an illness experience may include social as well as physiological processes. The patient's problem may just as easily be caused by an evil spirit, a germ, or both. The physician's diagnosis may not make sense in terms of the patient's theory of illness, and the "cure" may not take into consideration the patient's family dynamics, the potential for social stigma in the community, or the lack of resources for follow-up visits or long and expensive therapies.

Healing systems often cut across categories of religion, medicine, and social organization. Therapeutic modalities may range from cardiac bypass surgery to amulets to protect against the evil eye to conflict resolution between kin groups. Shaman, priests, university-trained physicians, and family members may assume a healing role at any given time. In recent decades, medical anthropologists have distinguished between biomedical systems of healing based on Western scientific notions of medicine and ethnomedical systems of healing based on all other notions of healing. As we shall see, this distinction may be more a convenience than a reality.

BASIC APPROACHES TO MEDICAL ANTHROPOLOGY

Although the scope of anthropological inquiry into issues of human health, sickness, and healing is very diverse, and the subfields engaged in these inquiries often overlap with one another, we can nevertheless identify five basic approaches to medical anthropology: (1) biological, (2) ecological, (3) ethnomedical, (4) critical, and (5) applied. The first two of these approaches focus on the interaction of humans and their

environment from a biosocial perspective, that is, with a focus on the interaction between biological and health questions and socioeconomic and demographic factors. The other three approaches emphasize the influence of culture (the patterns of thought and behavior characteristic of a group).

All five approaches in medical anthropology share four essential premises: first, that illness and healing are basic human experiences that are best understood holistically in the complex and varied interactions between human biology and culture; second, that disease is an aspect of human environments influenced by culturally specific behaviors and sociopolitical circumstances; third, that the human body and symptoms are interpreted through cultural filters of beliefs and epistemological assumptions; and fourth, that cultural aspects of healing systems have important pragmatic consequences for the acceptability, efficacy, and improvement of health care in human societies.

Biological Approaches

Much of the research in biological anthropology concerns important issues of human health and illness and therefore often intersects with the domains of medical anthropology. Many contributions of biological anthropologists help to explain the relationships between evolutionary processes, human genetic variation, and the different ways that humans are sometimes susceptible, and other times resistant, to disease and other environmental stressors. The evolution of disease in ancient human populations helps us to better understand current health trends. For example, the recent global trend of emerging and reemerging infectious diseases, such as tuberculosis and AIDS, is influenced by forces of natural and cultural selection that have been present throughout modern human evolution. During the time of the Paleolithic, early human populations lived in small bands as nomadic hunters and gatherers. The low population densities during this period would not have supported the acute infectious diseases found today (Hart 1983); instead, chronic parasitic and arthropod-borne diseases were more prevalent (Kliks 1983; Lambrecht 1964).

The shift toward sedentary living patterns and subsistence based on plant and animal domestication, sometimes called the Neolithic Revolution, had a profound effect on human health. Skeletal evidence from populations undergoing this transition indicates an overall deterioration in health consistent with the known relationship between infectious disease and malnutrition (Pelletier et al. 1993). These emerging infections have been attributed to increasing population density, social stratification, decreased nutritional va-

riety, water and sanitation problems, and close contact with domesticated animals (Cockburn 1971; Fenner 1970). These changes had a disproportionate impact on women, young children, the elderly, and the emerging underclass, who were most susceptible to infections in socially stratified societies (Cohen and Armelagos 1984).

A more recent threat to human health has come from chronic degenerative conditions. These so-called diseases of civilization—such as heart disease, diabetes, and cancer—are the leading causes of adult mortality throughout the world today. Many of these diseases share common etiological factors related to human adaptation over the last 100,000 years. For example, obesity and high consumption of refined carbohydrates and fats are related to increased incidence of heart disease and diabetes. Human susceptibility to excessive amounts of these substances can be explained by the evolution of human metabolism throughout millions of years of seasonal food shortages and diets low in fat (Eaton, Shostak, and Konner 1988).

A related theory of "thrifty genes" has been proposed to explain relatively shorter term evolutionary changes that account for genetic variation in the susceptibility to chronic diseases among different contemporary populations (Neel 1982). For example, certain Native American and other recently acculturated populations have significantly higher prevalences of adult-onset diabetes and hypertension in comparison to populations that have been subsisting on high calorie and fatty diets for many generations. The thrifty gene hypothesis proposes that the difference in susceptibility to chronic diseases in these populations is related to the degree of genetic adaptiveness to changes in diet and activity that have occurred in recent human history [see selection 5 by Ritenbaugh and Goodby]. In other words, during feast or famine times in the past, genes affecting insulin physiology were selected for, which allowed people to adapt to irregular food supply; some populations may have been forced through an evolutionary bottleneck of natural selection resulting in higher gene frequencies of this particular adaptation. In the context of modern diets, however, these genes add to the burden of chronic disease.

As with infectious disease, variation in human susceptibility to chronic diseases cannot be accounted for by genes alone. Environmental and sociocultural factors play a major role as well. Here, human physiological measurements have demonstrated the impact of sociocultural conditions on human health. For example, a recent anthropological study of African Americans suggests that the psychological stress related to racial discrimination may contribute to higher prevalences of hypertension in these populations (Dressler 1993).

Some biological contributions to medical anthropology actually critique the misapplication of biological concepts. During the late nineteenth century, measurements of cranial size were taken of Jewish and southern European immigrants to the United States and compared with Anglo-American residents. The difference in cranial size between these populations was used to support a theory of racial hierarchy based on hereditary differences in brain size. By careful comparisons between first- and second-generation groups from these immigrant populations, Franz Boas was able to demonstrate that these differences were attributable to environmental influences on body size (Boas 1940). Subsequent analyses have discredited previous studies relating measurements of intelligence to those of cranial capacity (Gould 1981), and categories of human races have been shown to have little validity in the study of human variation.

In 1980, an economist put forward a hypothesis that children suffering from mild to moderate malnutrition (MMM) were positively adapted to their circumstances by conserving growth in order to maintain an equilibrium of body functioning. These children were not considered impaired aside from diminished growth and were therefore "small but healthy." This same paper recommended that aid programs restrict food distribution to children who were actually starving (Seckler 1982). However, anthropological studies have shown that MMM children are not healthy at all. They suffer from increased infections, decreased cognitive development, and decreased fertility later in life (Martorell 1989). This information is very important as it can influence health policy affecting the lives of millions of children.

Finally, biological anthropologists provide important information regarding the ethnopharmacological aspects of traditional medical systems. Nina Etkin defines ethnopharmacology as "the study of indigenous medicines that connects the ethnography of health and healing to the physical composition of medicines and their physiologic actions" (Etkin 1996:151). Eschewing biological reductionism, she asserts that ethnopharmacologists consider not only the physiological properties of plant substances but also issues related to their selection, preparation, and intended uses within particular social settings and broader biocultural frameworks.

Ecological Approaches

Ecology refers to the relationships between organisms and their total environment. Within medical anthropology, the ecological perspective has three major premises. First, the interdependent interactions of

plants, animals, and natural resources comprise an "ecosystem" with characteristics that transcend its component parts. Second, the common goal of the species within an ecosystem is homeostasis: a balance between environmental degradation and the survival of living populations. In this homeostatic system, infectious disease agents (pathogens) and their human hosts are understood to exist in a dynamic adaptive tension that strives toward a relatively stable balance between pathogens and human responses. Third, modern human adaptations include cultural and technological innovations that can dramatically alter the homeostatic relationship between host and disease, occasionally creating severe ecological imbalances. In some cases, these imbalances may benefit humans in the short term, decreasing the prevalence of a particular disease in a population and improving human health. In other cases, homeostatic imbalances favor disease agents, providing an opportunity for diseases to reach epidemic proportions and dramatically increase human morbidity and mortality.

Thus, an ecological approach to medical anthropology emphasizes that the total environment of the human species includes the products of large-scale human activity as well as "natural" phenomena and that health is affected by all aspects of human ecology. The term *medical ecology* has been used to describe this approach as the intersection of culture, disease ecology, and medicine in the study of medical issues (McElroy and Townsend 1996). This approach can be further distinguished by two levels of analysis. At the microlevel, *cultural ecology* examines how cultural beliefs and practices shape human behavior, such as sexuality and residence patterns, which in turn alter the ecological relationship between host and pathogen. At the macrolevel, *political ecology* examines the historical interactions of human groups and the effects of political conflicts, migration, and global resource inequality on disease ecology (Brown, Inhorn, and Smith 1996). Many ecological approaches to medical anthropology include some aspects of both cultural and political ecology. We can use malaria and schistosomiasis to explain these approaches.

Malaria is a disease caused by a microscopic plasmodium parasite that is transmitted to human hosts through contact with mosquitoes of the genus *Anopheles*. These mosquitoes breed and multiply in stagnant pools of water in warm climatic regions. Malaria has a long and sordid history in many societies, and it continues to be a major cause of human morbidity and mortality today (Brown 1997). At a cultural-ecological level, adaptations to malaria include the highland Vietnamese building practices, in which stilted houses allowed people to live above the 10-foot mosquito flight ceiling (May 1958). Although malaria has since

been eradicated on the southern Italian island of Sardinia, Peter Brown (1981) discovered that, although perhaps unintended, many of the cultural practices that functioned to reduce contact with malaria-carrying mosquitoes continue today (see selection 9). These include settlement and land use patterns, in which nucleated villages are located in highland areas and flocks of sheep are taken to the lowlands in the winter, thus minimizing contact with the mosquitoes during peak malaria seasons.

At a political-ecological level, however, we find that these adaptive cultural practices were probably motivated by historical threats of military raids and expropriation of land by foreigners. Furthermore, wealthy Sardinians had less contact with the mosquitoes because they did not have to leave the safety of the village to work in the fields as did the laborers, nor did they have to stay in the village during peak malaria season when they could afford to take summer vacations abroad. Thus, the example of malaria demonstrates that multiple ecological variables—biological, cultural, political, and economic—interact to influence the prevalence of particular diseases in a given environmental context.

Finally, schistosomiasis, a parasitic disease spread by snails, provides one of the most dramatic examples of the relationship between political ecology and disease. As Donald Heyneman (1974) has described, economic development programs throughout the world have often focused on the building of dams in order to prevent seasonal flooding, improve irrigation, and provide hydroelectric power. Enormous dams, such as the Aswan High Dam on the Nile River, have dramatically altered the ecology of surrounding areas by preventing seasonal flooding and creating some of the world's largest man-made bodies of water. A by-product of such changes, however, is that they create homeostatic imbalances between human populations and certain water-borne parasitic infections, such as schistosomiasis. The small snails that carry schistosomiasis thrive in the numerous irrigation canals emanating from the dams, increasing human exposure to the parasites. The result has been continual increases in the prevalence of debilitating schistosomiasis, an infection that primarily affects children, in numerous developing countries.

The story of schistosomiasis demonstrates that political-economic forces, such as dam development programs, can dramatically shape the relationship between host and disease in human populations. This, in turn, emphasizes the need for medical ecology to widen its definition of "environment" beyond the purely natural to include the political-economic consequences of collective human activity.

Ethnomedical Approaches

All societies have medical systems that provide a theory of disease etiology, methods for the diagnosis of illness, and prescriptions and practices for curative or palliative treatment. Medical anthropology initially derived from anthropological interests in the healing beliefs and practices of different cultures. These interests stemmed from a growing recognition of the complex relationship between issues of health and sickness, culturally specific beliefs and healing practices, and the opportunities and constraints afforded by larger social forces (Wellin 1978).

Promoting the need for ethnomedical science, Horacio Fabrega defines ethnomedical inquiry as "the study of how members of different cultures think about disease and organize themselves toward medical treatment and the social organization of treatment itself" (Fabrega 1975:969). As a domain of inquiry, ethnomedical research is as broad as the discipline of anthropology. Generally speaking, medical anthropologists studying ethnomedical systems have focused on five major areas of research: (1) ethnographic description of healing practices; (2) comparison of ethnomedical systems; (3) explanatory models of health and sickness; (4) health-seeking behaviors; and (5) the efficacy of ethnomedical systems.

At the beginning of this century, anthropological studies of medical systems were confined to ethnographic descriptions of "exotic" practices within non-Western societies. Many observations about sickness and therapeutic rituals were analyzed from the perspective of underlying cosmological beliefs and cultural values within comparative studies of myth and religion. However, some aspects of these works have been criticized for a tendency to sensationalize the differences of "primitive" people in comparison to those in Western industrialized societies (Rubel and Hass 1996).

In later decades, cultural notions of disease etiology around the world were described, classified, and mapped in order to trace the evolution of cultures. The classification of ethnomedical beliefs and practices continued into the 1960s with projects emphasizing cross-cultural comparisons, such as the Human Relations Area Files (HRAF—a cross-indexed survey of hundreds of world cultures). One question that arose from these comparisons was the relationship between Western and non-Western medical systems. The term *ethnomedicine* was first defined as "beliefs and practices related to disease which are the products of indigenous cultural development and are not explicitly derived from the conceptual framework of modern medicine" (Rubel and Hass 1996).

In the simplest sense, all ethnomedical systems have three interrelated parts: (1) a theory of the etiology (causation) of sickness; (2) a method of diagnosis based on the etiological theory; and (3) the prescription of appropriate therapies based on the diagnosis.

Although this initial definition of ethnomedicine is convenient for many applications, it also forces an arbitrary distinction between so-called indigenous, traditional, and nonscientific medical systems and Western, modern, and scientific medical systems. In India, for example, many Ayurvedic practitioners receive university training, practice in commercial institutions, and supplement their therapies with antibiotics, x-rays, and other tools of biomedicine (Nichter 1992). Likewise, many Indian physicians trained in English medicine use indigenous categories to explain health issues to their patients. Furthermore, in her comparison of biomedical systems in Europe and North America, Lynn Payer (1988) found considerable variability in the health beliefs and practices that constitute biomedicine. Because of this medical pluralism, it may be more useful to consider ethnomedicine as the study of any form of medicine as a cultural system. In other words, biomedicine can be considered as just another ethnomedical system.

In the context of medical pluralism, clinicians can elicit the person's *explanatory model* of his or her sickness rather than memorize the details of a specific ethnomedical belief system (Brown, Gregg, and Ballard 1997). An explanatory model (EM) is a personal interpretation of the etiology, treatment, and outcome of sickness by which a person gives meaning to his or her condition. Although EMs are personal, they are also learned cultural models, so that an EM shared by a group might be considered a folk model of disease. These models constitute health belief systems that, from a cross-cultural perspective, generally fall into two categories: (1) *personalistic belief systems* that explain sickness as the result of supernatural forces directed at a patient, either by a sorcerer or by an angry spirit; and, (2) *naturalistic belief systems* that explain sickness in terms of natural forces, such as the germ theory of contagion in Western biomedicine or the imbalance of humors in many forms of Chinese, Indian, and Mediterranean systems [see selection 12]. There is often disparity between the explanatory models of patients and healers, which may lead to problems of communication and nonadherence to prescribed therapies (Brown, Gregg, and Ballard 1997).

Health-seeking behavior refers to the process whereby people seek medical assistance and select health care practitioners. Information on such behavior is important for public health programs aimed at disease prevention and treatment. Although stated

health beliefs may influence treatment decisions, explanatory models alone are not good predictors of people's observed patterns of health-seeking. This is because, as anthropologists have long noted, there is often a significant difference between cultural ideals—what people say they do—and real (observable) behavior. For example, a study of Nepalese patients found that people often sought multiple medical resources for a single illness despite verbal claims to the contrary (Durkin-Longley 1984). Many different factors may affect decisions concerning when and where to seek treatment, such as the influence of family members (Janzen 1978), social networks, and geographic access to health resources (Kunitz 1983). In many cases, economic resources can severely limit treatment options, as in the case of Uganda, where annual per capita health expenditures are less than the cost of a single HIV test.

An emerging area of interest among medical anthropologists is the efficacy of ethnomedical systems in meeting the health needs of patients in particular settings. Yet it is no accident that the criteria of medical efficacy are precisely as problematic as those of health. One solution may be to base the effectiveness of a particular treatment on the patient's own criteria. However, Thomas Csordas and Arthur Kleinman (1996) note that patients often claim satisfaction with their therapies while still retaining symptoms. These same authors suggest a broader set of criteria involving structural, clinical, discursive, persuasive, and social indices for the evaluation of ethnomedical therapies.

Critical Approaches

In recent decades, medical anthropology has witnessed a significant break from its disciplinary past. In the last fifteen years, there have been intense intellectual debates, especially in the humanities, surrounding the "critical theories," which include postmodernism, Marxism, and deconstructionism. In general, these approaches require people to critically examine their own intellectual assumptions about how the world works. The basic idea is that reality is socially constructed and that versions of reality can be used to conceal complex political, economic, and social relationships. These debates have influenced cultural anthropology in general and medical anthropology specifically. An important outcome has been the development of *critical medical anthropology* (CMA), a perspective that coalesced in the 1980s and 1990s (Singer 1989). Although CMA subsumes much theoretical diversity, it expresses at least two broad critiques.

The first critique is that many medical anthropologists have incorrectly attributed regional disparities in health to local sociocultural differences without examining the influence of global political-economic inequality on the distribution of disease. In the past, the intellectual tendency of medical anthropologists has been to view illness only within local cultural systems and to neglect the larger political and economic context within which these cultures are found. Proponents of CMA insist that medical anthropology broaden its explanatory framework to include the macrolevel forces that connect individuals to the larger world system. The discourse about CMA—how it is discussed and written about—has often been emotionally charged and activist-oriented; the questioning of research assumptions (for example, the unarticulated political assumptions of scientific research) has sometimes made anthropologists from other perspectives feel attacked and defensive and led to increased factionalism between disciplinary subfields.

Critical medical anthropologists describe how large-scale political, economic, and cognitive structures constrain individuals' decisions, shape their social behavior, and affect their risk for disease [see selection 11 by Farmer]. For example, in an analysis of the political-economic dimensions of disease in Tanzania, Meredith Turshen has described how a history of colonialism drastically affected the country's nutritional base, altered its kinship structure, and imposed constraints on its health care system. This analysis is specifically designed to question the hidden assumptions behind the ahistoric, scientific, epidemiological, "natural history" approach to understanding disease and international health problems. As such, she questions the epistemology (the way of knowing) of standard studies, and she emphasizes an alternative she calls the "unnatural history of disease" (Turshen 1984). This study exemplifies the CMA approach in two ways: first, it questions the epistemological assumptions in standard analyses and recognizes that those assumptions highlight some causes and obfuscate others; and second, it emphasizes how historical and political factors shape contemporary decision making as well as the distribution of present-day health problems (Turshen 1984). This approach is also called the "political economy of health" (Morsy 1996).

Critical medical anthropologists make similar arguments concerning health disparities *within* industrialized Western societies. Due to their interest in macrolevel forces (such as world capitalism), critical medical anthropologists are generally skeptical of public health policies that propose microlevel solutions. Thus, CMA not only challenges the socioculturalism of traditional medical anthropology but also criticizes the narrow focus of international health

agencies, whose policies and interventions rarely address the large-scale factors influencing disease (Morsy 1996). Recently, Merrill Singer has provided examples of ways that CMA may be merged with applied anthropology [see selection 24].

The second critique offered by CMA emerges from a heated epistemological debate on the nature of biomedicine. Some critical medical anthropologists, influenced by the work of postmodern thinkers such as Michel Foucault (1990), have challenged the medical anthropological presumption that Western biomedicine is an empirical, law governed science that is unbiased by its own cultural premises. They point to the assumptions and generalizations underlying the theory and practice of Western medicine, which have been historically exempt from cultural analysis in medical anthropology. Nancy Scheper-Hughes and Margaret Lock [see selection 23], for example, critically question and analyze ("deconstruct") the mind-body distinction—a fundamental premise of biomedicine that asserts the separation of "mind from body, spirit from matter, and real from unreal"—as a way to gain insight into how health care is planned and delivered in Western societies (1987:6). They suggest that the dominance of science and medicine has made the separation of mind and body so pervasive that people currently lack a precise vocabulary to express the complex interactions of mind, body, and society (Lock and Scheper-Hughes 1996; Scheper-Hughes and Lock 1987). Even within the newly integrated paradigm of health in medicine—the "bio-psycho-social" approach—there is an assumed predominance of biology and a lack of attention to the very important interactions of mind, body, and society (Hahn and Kleinman 1983). Critical medical anthropologists have thus proposed a new paradigm that views sickness not just as an isolated event but as a product of complex interactions involving nature, society, and culture.

Applied Approaches

As its name implies, applied anthropology emphasizes the direct application of anthropological theory and method to particular social problems. Within medical anthropology, applied approaches can be categorized into two general domains: applied anthropology in clinical settings (for example, hospitals) and applied anthropology in public health programs. Clinically applied anthropology focuses on health care within biomedical settings and analyzes the effects of cultural and socioeconomic factors on doctor-patient interaction, adherence to treatment, and the experience of healing. A growing body of literature within clinically applied anthropology demonstrates how

knowledge of explanatory models can be used to improve cultural sensitivity in physician–patient communications (Kleinman, Eisenberg, and Good 1978).

Explanatory models may be of particular importance in understanding the relationship between ethnicity and disease (Brown, Gregg, and Ballard 1997; Chrisman and Johnson 1996). For example, Suzanne Heurtin-Roberts and Efrain Reisin [see selection 26] have shown that the explanatory models of “high blood” and “high-pertension” among African American women can cause clinical communication difficulties in the treatment of high blood pressure as well as affecting patient adherence to treatment. Because the explanatory model of “high-pertension” refers to an episodic illness that cannot be treated (except to avoid stressful situations), patients who believe that their illness is “high-pertension” see no point in taking daily medication prescribed by a biomedical doctor; they are “noncompliant.” Similar obstacles to clinical treatment have been described in studies of the explanatory models of other ethnic groups, such as the hot–cold theory of disease among Hispanics [see selection 28]. Such studies suggest that greater attention to patients’ explanatory models of illness—and the specific ways in which they conflict or conform to biomedical models—can facilitate mutual understanding between physicians and their patients and ultimately improve health outcomes (Csordas and Kleinman 1996; Helman 1994).

The second major branch of applied medical anthropology deals with public health policymaking, program development, and intervention. Medical anthropologists are being called on to consult with international and domestic health agencies in an effort to formulate health programs that are culturally sensitive, applicable to local needs, and effective in obtaining community support. Anthropological perspectives are relevant at all levels of the public health process, from the interpretation of disease trends to the design, implementation, and evaluation of programs.

One of the areas in which anthropologists have contributed their insight to public health is in their collaboration with epidemiologists (Trostle and Sommerfeld 1996). Through ethnography, anthropologists have assisted epidemiologists in identifying some of the specific behaviors that increase risk for disease and the cultural norms or beliefs that promote them (Nations 1986). One classic example is the prominent role of anthropologists in unraveling the social etiology of kuru, an infectious disease found among the South Fore of New Guinea, probably transmitted through funerary practices (Lindenbaum 1979). Thus, although some medical anthropologists have not supported the methods and assumptions of epidemiology itself, applied anthropologists are beginning to bridge what

they view as the complementary strengths of epidemiology and medical anthropology (Inhorn 1995). Other applied anthropologists have focused on creating more effective public health programs by appealing to local cultural values and personnel. For example, in the area of HIV/AIDS, several anthropologists have advocated the use of traditional healers as educators and trusted health advisors in local communities (Green 1994; Schoepf 1992). The use of traditional healers as collaborators in the introduction of health technologies and information avoids many of the problems of distrust, translation, applicability, and sustainability that often plague public health programs.

Finally, some medical anthropologists have examined the cultural dimensions of the public health bureaucracy itself. Similar to studies of biomedicine as a cultural system, applied anthropologists are increasingly turning their attention to the cultural beliefs, norms, and implicit premises on which public health funding and administration are based (Justice 1986). Frequently, such research seeks to expose the cultural and bureaucratic assumptions within public health that create obstacles to the implementation of locally relevant, effective, and culturally sensitive programs.

CONCLUSION

We began this introduction with the assertion that medical anthropology, like its parent discipline, is a holistic and interdisciplinary enterprise. Because there is a remarkable diversity of theories and methods used in this field, it may be more appropriate to refer to medical anthropologies. We have outlined five major approaches that medical anthropologists use in understanding issues of human health, healing, and sickness. When we explore the specific examples, however, it becomes clear the five major categories overlap. The first two parts of this book—the part devoted to understanding medical anthropology—contrast biosocial approaches (using a paradigm of behavior and ecological interaction between diseases and society) with a series of approaches that emphasize culture, including ethnomedical systems.

Despite this diversity, there are essential commonalities in an anthropological study of health and illness. Just as critical medical anthropologists demonstrate the relationships between social inequalities and health today, biological studies of ancient populations similarly demonstrate how these inequalities have affected health throughout modern human evolution. Political economic forces have reshaped the natural waterways of developing nations, which in turn have reshaped human disease ecologies. Studies of

ethnomedical systems can bring together ethnopharmacology with personalistic beliefs of sorcery. Additionally, applied medical anthropologists must often find solutions to public health problems in the common ground of all these approaches. Thus, although the subfields within medical anthropology can be conceptually separated into the perspectives outlined above, they necessarily intersect in the multidimensional study of health and disease.

REFERENCES

- Boas, Franz. 1940. *Race, Language, Culture*. New York: Macmillan.
- Brown, Peter J. 1981. "Cultural Adaptation to Endemic Malaria in Sardinia." *Medical Anthropology* 5(4):311-339.
- Brown, Peter J. 1991. "Culture and the Evolution of Obesity." *Human Nature* 2:31-57.
- Brown, Peter J. 1997. "Culture and the Global Resurgence of Malaria." In *The Anthropology of Infectious Disease: International Health Perspectives*, edited by Marcia Inhorn and Peter J. Brown, pp. 119-141. Newark, NJ: Gordon and Breach.
- Brown, Peter J., Jessica Gregg, and Bruce Ballard. 1997. "Culture, Ethnicity, and the Practice of Medicine." In *Human Behavior for Medical Students*, edited by Alan Stoudemire. New York: Lippincott.
- Brown, Peter J., Marcia Inhorn, and Daniel Smith. 1996. "Disease, Ecology, and Human Behavior." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 183-219. Westport, CT: Praeger.
- Chrisman, Noel J., and Thomas M. Johnson. 1996. "Clinically Applied Anthropology." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 88-109. Westport, CT: Praeger.
- Cockburn, T. A. 1971. "Infectious Disease in Ancient Populations." *Current Anthropology* 12(1):45-62.
- Cohen, M. N., and G. J. Armelagos. 1984. *Paleopathology at the Origins of Agriculture*. New York: Academic.
- Csordas, Thomas, and Arthur Kleinman. 1996. "The Therapeutic Process." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 3-20. Westport, CT: Praeger.
- Desowitz, R. S. 1981. *New Guinea Tapeworms and Jewish Grandmothers: Tales of Parasites and People*. New York: Norton.
- Dressler, W. 1993. "Health in the African American Community: Accounting for Health Inequalities." *Medical Anthropology Quarterly* 7(4):325-335.
- Dressler, W. H., J. R. Bindon, and M. J. Gilliland. 1996. "Sociocultural and Behavioral Influences on Health Status Among the Mississippi Choctaw." *Medical Anthropology* 17:165-180.
- Dubos, Rene. 1959. *The Mirage of Health*. New York: Harper & Row.
- Durkin-Longley, Maureen. 1984. "Multiple Therapeutic Use in Urban Nepal." *Social Science and Medicine* 19:867-872.
- Eaton, S. B., M. Shostak, and M. Konner. 1988. "Stone Agers in the Fast Lane: Chronic Degenerative Diseases in Evolutionary Perspective." *The American Journal of Medicine* 84:739-749.
- Etkin, Nina. 1996. "Ethnopharmacology: The Conjunction of Medical Ethnography and the Biology of Therapeutic Action." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson. Westport, CT: Praeger.
- Fabrega, Horacio. 1975. "The Need for an Ethnomedical Science." *Science* 189:969-975.
- Farmer, Paul. 1996. "Social Inequalities and Emerging Infectious Diseases." *Emerging Infectious Diseases* 2(4):259-269.
- Fenner, F. 1970. "The Effects of Changing Social Organization on the Infectious Diseases of Man." In *The Impact of Civilization on the Biology of Man*, edited by S. V. Boyden. Canberra: Australia National University Press.
- Foucault, Michel. 1990. *The History of Sexuality Volume I: An Introduction*. New York: Vintage.
- Gould, Stephen Jay. 1981. *The Mismeasure of Man*. New York: Norton.
- Green, Edward C. 1994. *AIDS and STDs in Africa: Bridging the Gap Between Traditional Healing and Modern Medicine*. Boulder, CO: Westview.
- Hahn, Robert A. 1995. *Sickness and Healing: An Anthropological Perspective*. New Haven, CT: Yale University Press.
- Hahn, Robert A., and Arthur Kleinman. 1983. "Belief as Pathogen, Belief as Medicine: 'Voodoo Death' and the 'Placebo Phenomenon' in Anthropological Perspective." *Medical Anthropology Quarterly* 14(3):3, 16-19.
- Hart, G., ed. 1983. *Diseases in Ancient Man*. Toronto: Clarke Irwin.
- Harwood, A. 1971. "The Hot-Cold Theory of Disease: Implications for the Treatment of Puerto Rican Patients." *Journal of the American Medical Association* 216:1153-1158.
- Heiman, Cecil G. 1994. *Culture, Health, and Illness: An Introduction for Health Professionals*, 3rd ed. Oxford: Butterworth-Heinemann, Ltd.
- Heurtin-Roberts, S., and E. Reisin. 1990. "Health Beliefs and Compliance with Prescribed Medication for Hypertension Among Black Women." *Morbidity and Mortality Weekly Report* 39(40):701-703.
- Heyneman, Donald. 1974. "Dams and Disease." *Human Nature* 2:50-57.
- Inhorn, Marcia C. 1995. "Medical Anthropology and Epidemiology: Divergences or Convergences?" *Social Science and Medicine* 40(3):285-290.
- Janzen, John. 1978. *The Quest for Therapy: Medical Pluralism in Lower Zaire*. Berkeley: University of California Press.
- Justice, Judith. 1986. *Policies, Plans, and People: Foreign Aid and Health Development*. Berkeley: University of California Press.
- Kleinman, Arthur M., L. Eisenberg, and Byron J. Good. 1978. "Culture, Illness and Care: Clinical Lessons from Anthropologic and Cross-Cultural Research." *Annals of Internal Medicine* 88:251-258.
- Kliks, M. M. 1983. "Parasitology: On the Origins and Impact of Human-Helminth Relationships." *Human Ecology and*

- Infectious Disease*, edited by N. A. Croll and J. H. Cross, pp. 291-313. New York: Academic.
- Kunitz, Stephen. 1983. *Disease Change and the Role of Medicine: The Navajo Experience*. Berkeley: University of California Press.
- Lambrecht, F. L. 1964. "Aspects of Evolution and Ecology of Tsetse Flies and Trypanosomiasis in Prehistoric African Environments." *Journal of African History* 5:1-24.
- Lindenbaum, Shirley. 1979. *Kuru Sorcery: Disease and Danger in the New Guinea Highlands*. Mountain View, CA: Mayfield.
- Lock, Margaret, and Nancy Scheper-Hughes. 1996. "A Critical-Interpretive Approach in Medical Anthropology: Rituals and Routines of Discipline and Dissent." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 41-70. Westport, CT: Praeger.
- Martorell, Reynaldo. 1989. "Body Size, Adaptation and Function." *Human Organization* 48:15-20.
- May, J. M. 1958. *The Ecology of Human Disease*. New York: MD Publications.
- McElroy, Arn, and Patricia K. Townsend. 1996. *Medical Anthropology in Ecological Perspective*. Boulder, CO: Westview.
- Morsy, Soheir A. 1996. "Political Economy in Medical Anthropology." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 21-40. Westport, CT: Praeger.
- Nations, Marilyn K. 1986. "Epidemiological Research on Infectious Disease: Quantitative Rigor or Rigormortis? Insights from Ethnomedicine." In *Anthropology and Epidemiology: Interdisciplinary Approaches to the Study of Health and Disease*, edited by C. R. Janes, R. Stall, and S. M. Gifford. Dordrecht: D. Reidel.
- Neel, J. V. 1982. "The Thrifty Genotype Revisited." In *Genetics of Diabetes Mellitus*, edited by J. Koberling and R. Tattersall, pp. 283-293. London: Academic Press.
- Nichter, M. 1992. "The Layperson's Perception of Medicine as Perspective into the Utilization of Multiple Therapy Systems in the Indian Context." *Social Science and Medicine* 148:225-233.
- Nichter, Mark, and Mimi Nichter. 1996. *Anthropology and International Health: Asian Case Studies*. Newark, NJ: Gordon and Breach.
- Payer, Lynn. 1988. *Medicine and Culture*. New York: Penguin.
- Pelletier, D. L., E. A. Frongillo, et al. 1993. "Epidemiologic Evidence for a Potentiating Effect of Malnutrition on Child Mortality." *American Journal of Public Health* 83(8): 1130-1133.
- Rubel, Arthur J. 1964. "The Epidemiology of a Folk Illness: Susto in Hispanic America." *Ethnology* 3:268-283.
- Rubel, Arthur J., and Michael R. Hass. 1996. "Ethnomedicine." In *Medical Anthropology: Contemporary Theory and Method*, edited by Carolyn Sargent and Thomas Johnson, pp. 113-130. Westport, CT: Praeger.
- Scheper-Hughes, Nancy, and Margaret M. Lock. 1987. "The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology." *Medical Anthropology Quarterly* 1(1):6-41.
- Schoepf, Brooke Grundfest. 1992. "AIDS, Sex and Condoms: African Healers and the Reinvention of Tradition in Zaire." *Medical Anthropology* 14:225-242.
- Seckler, D. 1982. "'Small but Healthy': A Basic Hypothesis in the Theory, Measurement, and Policy of Malnutrition." In *Newer Concepts in Nutrition and Their Implications for Policy*, edited by P. V. Sukhatme, pp. 127-137. Pune, India: Maharashtra Association for the Cultivation of Science Research Institute.
- Singer, Merrill. 1989. "The Coming of Age of Critical Medical Anthropology." *Social Science and Medicine* 28:193-203.
- Sontag, Susan. 1978. *Illness as Metaphor*. New York: Farrar, Straus, & Giroux.
- Trostle, J., and J. Sommerfeld. 1996. "Medical Anthropology and Epidemiology." *Annual Review of Anthropology* 25:253-274.
- Turshen, Meredith. 1984. *The Political Ecology of Disease in Tanzania*. New Brunswick, NJ: Rutgers University Press.
- Wellin, Edward. 1978. "Theoretical Orientations in Medical Anthropology: Change and Continuity over the Past Half-Century." In *Health and the Human Condition*, edited by M. Logan and E. Hunt, pp. 23-39. North Scituate, MA: Duxbury.