

Medical Anthropology in Applied Perspective



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ISBN-13: 978-0-495-10017-1
ISBN-10: 0-495-10017-X

Wadsworth
10 Davis Drive
Belmont, CA 94002-3098
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PREFACE

Medical anthropology has become an ever broadening field that is both interdisciplinary and applied. Many students of anthropology will go on to work in this field, whether it is in health care, medical research, nutrition, the study of traditional medicine and its applications, or child birth and development. The topics, perspectives, and approaches developed in this field of study therefore provide practical training for the world that students will enter.

Medical anthropology may be a career choice, but it is also a useful way of looking at human interactions in general. Understanding the cross-cultural variations in the way that people perceive illness and health, treat their ailments, view the mind-body connection, and the values underpinning these perceptions gives us a global picture of the human condition, and the world in which we live.

Lynn Sikkink

ACKNOWLEDGMENTS

I had my first chance to teach medical anthropology at San Jose State University, and would like to thank my colleagues there for help in developing my ideas about the topic from an applied perspective. As a graduate student I was lucky to take a medical anthropology course from Nina Etkin—appropriately, a photo of Dr. Etkin doing research in the field is included in this module. Thank you to Gary Ferraro for helpful comments on improving the material in this unit. I am also extremely grateful to Lin Gaylord at Wadsworth/Cengage Learning for her fine editorial comments, and for helping me through this process of module-writing. Finally, I want to thank my new colleagues at Western State College for providing the comfortable academic environment in which this work was completed.

INTRODUCTION

The well-being of the human body is a topic in which all societies are interested. Each society has a distinct way of defining and promoting good health and curing the ailments from which people suffer. Medical anthropologists research these cultural differences and involve themselves deeply in the cross-cultural issues surrounding health, illness, and health care. As anthropologists they bring unique perspectives and approaches to the study of health and illness because they are experts at examining both the cultural beliefs surrounding health that include patterns of illness and notions of the body by a particular group of people, and practices of those who cure illness. These considerations lead medical anthropologists to an exploration of the healers from whom people will seek help when they are ill. Anthropologists ask questions about the role of healers in a society; about when individuals treat themselves and when they seek help from outside specialists; what kinds of treatments they use; and what the general cultural context is of those beliefs and practices. This set of questions and concerns is very anthropological—it is holistic and oriented toward the culture itself, but it also enables researchers to understand the various beliefs and practices as a meaningful whole in explaining why people do what they do and what meaning this has for them.

A good working definition of medical anthropology comes from Cecil Helman: “Medical anthropology is about how people in different cultures and social groups explain the causes of ill health, the types of treatment they believe in, and to whom they turn if they do get ill” (Helman 1994:1). In order to understand ill health, then, anthropologists must also know something about issues of well being. What does the state of good health consist in from society to society? Is good health merely the absence of illness, or is there something else that defines it?



Figure 1. Nina Etkin, a medical anthropologist, prepares plants in the field.
© Paul J. Ross

In order to answer these questions, anthropologists must work from within a culture, studying the overall cultural in order to put the particular medical system into perspective. Though medical anthropologists have a wide variety of backgrounds within anthropology, medical anthropology is a unified subfield of anthropology that investigates medical systems cross-culturally, focusing on topics of health and illness as they have affected human populations, and as health and illness are perceived by different societies.

Medical anthropology is clearly an integral part of the discipline of anthropology, but how is medical anthropology integrated with the key anthropological areas of research? Anthropology is often depicted as a four-part discipline, in which archaeology, physical anthropology, cultural anthropology and linguistics are the primary sub-fields. Applied anthropology can be seen either as a fifth subfield or as a specialized area within each of anthropology's four fields. Since medical anthropology is a broad field that crosses subfield specializations within anthropology and also links anthropology with other disciplines, it is similar in scope to the field of applied anthropology, which is also a broad field that is not contained by one anthropological subfield. Medical anthropology similarly crosses subfields, as in prehistoric studies of diet and disease, which links nutritional anthropology with archaeology. As much of the work of medical anthropology has practical applications as well (see Chapter One of the Ferraro text for a description of medical anthropology as an area of specialization in anthropology) it can be considered part of applied anthropology. Like applied anthropologists, many medical anthropologists are concerned with applying their research to contemporary problems, for instance, studying malnutrition in order to alleviate it. Yet not all medical anthropologists work within an applied framework.

A look at the work of a broad section of medical anthropologists shows the wide ranging interests and approaches within the field of medical anthropology. Some medical anthropologists, for example, have degrees in both anthropology and medicine and focus on traditional and biomedical practitioners of health care, while others have double degrees in anthropology and public health and focus on the origins and spread of disease. Other medical anthropologists are trained in very specific areas within anthropology such as forensic anthropology and bioarchaeology; and still others work within cultural anthropology focusing on cultural beliefs about illness and health. Research topics in medical anthropology range from paleopathology (the examination of ancient diseases through the study of skeletal material) to the health issues of street kids, to cross-cultural psychiatry. The broad range of topics studied by medical anthropologists illustrates that medical anthropology has important links to both medicine, social science, and the natural sciences, because in looking at health and disease, this field of study necessarily draws from many areas of investigation.

Practitioners of medical anthropology are committed to the study of practical health care issues that help to alleviate medical problems confronted by various groups of people. The Society for Medical Anthropology (SMA) is an interest group that has been part of the American Anthropological Association since 1968. Its diverse membership crosses subfields and disciplines and shows that despite a wide range of interests, medical anthropologists have created a unified subdiscipline that is one of the most rapidly growing areas within the field of anthropology. A closer look at the component groups of this society indicates medical anthropology's applied aspect: SMA members investigate and disseminate information on AIDS, bioethics, disability, reproductive issues, emerging diseases, pharmaceuticals, infant health, and alcohol, tobacco, and drug use. From these research areas it is clear that in terms of practical applications, anthropologists can make important contributions to the field of health care because of their ability to articulate the cultural context in which illness occurs and health care is provided. AIDS research, for example, has a long history of anthropological attention. The research contributed by anthropologists has helped demonstrate that it is not enough to prescribe the use of condoms to discourage the spread of AIDS—if people in a given region either do not have access to condoms or have cultural beliefs that keep them from using them, then this approach won't be successful and must be modified to fit the cultural practices of the group. This one example illustrates that global health issues must be addressed with an understanding of cultural context, something in which anthropologists excel (see Ferraro text, Chapter Five, for an applied perspective on anthropological research and AIDS).

MEDICAL SYSTEMS

Within medical anthropology, a distinction is often made between **biomedicine**, or the “western” medical system, and **ethnomedicine**, or the local system of indigenous beliefs and practices surrounding health and illness. In countries such as the US, the notion of health is mainly influenced by the biomedical system, in which all ill-health is attributed to a **pathogen** (a biological agent that causes disease or illness to its host), and the state of health is perceived as being an absence of disease. Despite the prevalence of the biomedical model in the US, most people also use ethnomedicine in that they search out “alternative” medicines which may not be condoned by the biomedical system, and they also have beliefs about illness that are not traced to pathogens (e.g., it is dangerous to go out in cold weather with wet hair). Conversely, in Bolivia where there is an active system of traditional medicine used by people in rural and urban areas alike, many people will consult a doctor from the biomedical establishment or a traditional healer depending on the illness. In this way, most systems of health

beliefs and care could be called medical pluralism in that they combine elements from different sources into a system that is meaningful to the individual.



Figure 2. At marketplace stands like this one in Bolivia, a mix of traditional ingredients and newer imports shows medical pluralism at work. © Lynn Sikkink

HOW MEDICAL ANTHROPOLOGISTS WORK: INTERDISCIPLINARY AND APPLIED ISSUES

Since medical anthropology is such a broad field that draws from a variety of disciplines and areas of expertise, it follows that the approaches taken to research and the data collected come from a wide variety of specialists and fields. Most research problems necessitate using data from different fields and integrating them, giving medical anthropology the interdisciplinary nature that characterizes it today.

In order to understand the cultural context of any particular health issue, it is necessary to have the **ethnographic data** collected by cultural anthropologists in the field. This provides the researcher with a broad understanding of a medical system, and also provides the fine-grained detail necessary for understanding health behavior. In most places, the so-called “medical system” is not separate from religious ideas and practices, and is also embedded in the material conditions of life, that is, in a society’s economic system and way of making a living.

Ethnographic data, then, provides information on religion, kinship, family structure, marriage practices, and subsistence techniques, thereby providing a full account of the people who experience health issues, the conditions of their lives, what they do when they get sick, and what kinds of perceptions they have about good health. Ethnographic research collects these data through intense and often long-term field study. If a researcher wants to understand the Inuit and their associated health conditions, then this person will need to interview Inuit people, visit their houses, and watch them as they go about their daily lives. This primary method of research, called **participant observation** can be complemented with collecting quantitative survey data relevant to the issue at hand.

Collecting **epidemiological data** is also important to medical anthropologists. Epidemiology is the “study of the distribution and determinants of the various forms of disease in human populations” (Helman 1994: 319). These data come from the fields of the natural and clinical sciences, and provide health statistics that help researchers to look at diseases and the groups of people at risk for those diseases. For example, in places where malaria is present, a medical anthropologist must determine which regions are at risk, and within them, which people. Although malaria is found in certain ecological settings inhabited by the mosquitoes that are the vector for the disease, not all people living in these areas are equally at risk. As Peter Brown discovered from studying malaria in Sardinia, not only are elderly people and infants more susceptible to dying from malaria,¹ but people in lower socioeconomic classes are more likely to contract malaria because of their work in malaria-ridden areas (1998). Women, and in general all people in higher economic classes, were more protected because of adaptive cultural practices, such as migrating to higher elevations in malaria season. Therefore, Brown’s research looks at the epidemiology of malaria, i.e., its distribution and determinants in Sardinia; but in looking at the cultural patterns that affect this, he also provides ethnographic and **environmental data**, making this a good example of the interdisciplinary nature of medical anthropology studies.

Some of the diseases that medical anthropologists study are **endemic**², like malaria, which is an ancient disease that is present in certain communities through time, but in moderate numbers. Other diseases are considered **epidemic** in that they affect a large number of people in a short period of time. The Bubonic Plague, or “Black Death,” is a classic example of an epidemic in the way it swept through Europe and the Middle East in the 1400s, killing more than a quarter of the

¹ The same pattern is true for West Nile Virus, another mosquito borne disease, which is becoming more prevalent in the US.

² An **endemic** disease is one that is common to a particular place and found in moderate numbers, in contrast to an **epidemic** disease.

population. Every year flu epidemics spread across the world, affecting millions of people during flu season.

Alongside epidemiological and ethnographic data, it is also important to understand the **ecological** or environmental picture; by gathering data on these features, the medical anthropologist can help to explain why disease occurs in particular places in particular times. In the case of malaria in Sardinia, for example, the **incidence**³ of malaria was directly related to different altitudinal zones and settlement sizes, and the ways in which settlements were inhabited by human populations. Malaria was most commonly found in low-lying rural areas (Brown 1998: 84).

Finally, clinical data has a role to play in medical anthropology by providing a picture of the diagnosis and treatment of disease in the people it inflicts. Clinical data help identify who is sick and how to treat disease from a clinical perspective, but may overlook valuable ethnographic data by focusing too narrowly on the disease as pathology. For instance, in the malaria example, it is a doctor or health professional that can identify whether a person is sick with malaria and what kinds of medicine would be useful in treating the disease. Without looking at the detailed ethnographic and environmental data however, clinical data would not be sufficient to understand the broader picture of how malaria in a region can be understood and combated.

Clinical data will also provide an important distinction between chronic and acute diseases. An **acute disease** develops quickly and is over relatively quickly, like the flu. A **chronic disease** is one that lasts over a longer period of time, like malaria or tuberculosis. However, some diseases can have acute and chronic expressions, as we see in the example of Chaga's disease below.

Having examined briefly the various kinds of data that are used in an interdisciplinary manner in medical anthropology, let's take a look at a specific case study to see how all these data sets interconnect in a useful way toward understanding, and eventually eradicating, a serious health threat. Chaga's disease is called a "crawling epidemic" by Joseph Bastien, in that it is spreading, but perhaps not quickly enough to gain the attention it deserves (2003:167).⁴ **Chaga's disease** is transmitted by the "kissing bug" called *vinchuca* in Spanish, which is a beetle-like bug (*Triatoma infestans*) carrying the parasite *Trypanosoma cruzi*. The bug bites and sucks the blood of a human sleeper at night, leaving a small mark,

³ **Incidence** is the rate at which new cases of disease occur in a population over a given period of time.

⁴ Recently an Inca mummy with Chaga's disease has been identified, meaning that Andean people have suffered from this disease since at least the 15th century. On another historical note, some researchers claim that Darwin suffered from Chaga's disease, which he would have contracted on his famous voyage to South America.

and infecting its victim. From an epidemiological perspective, the disease is endemic to Bolivia, infecting around 60 percent of the population, and is developing into a chronic problem in about one million Bolivians (Ibid.). It is also endemic to other parts of Latin America, posing a serious health problem in particular regions. Chagas' disease affects 16–18 million people, with one quarter of the Latin American population at risk of becoming infected, and the disease kills about 50,000 people each year. Chagas' disease is distributed throughout Americas, ranging from the southern United States to southern Argentina, though it is most commonly found in poor, rural areas of Central and South America, such as Bolivia.

Using clinical data, we see that the disease has a complex life cycle, which includes an animal reservoir population, making it similar to African “sleeping sickness,” also caused by a trypanosome parasite. The symptoms of Chaga's disease are so varied (from infection of various internal organs, to boils, to blocked intestines) that it has been a difficult disease for clinicians to diagnose, and it is even more difficult to treat. Its acute attacks can kill people quickly, especially small children, but its chronic phase is incurable and usually fatal within 13 years.⁵ One symptom alone, an enlarged colon (megacolon) and inability to defecate can kill the sufferer. In other cases, the disease exhibits different symptoms.

From environmental data we know that Chaga's disease becomes more prevalent in areas that have been deforested, which has the effect of concentrating bugs around human settlements, where they habituate themselves to humans rather than other animal prey. The *vinchuca* bugs move into houses, especially those that have thatched roofs where they can live, making it very likely that they will infect the people who live there. Programs aimed at eradicating the disease have therefore aimed at either killing the beetle in particular environmental zones, or providing tin roofing material to people who live in thatched roofed dwellings.

Interestingly, from an ethnographic perspective, the diverse symptoms and associated deaths that clinicians identify as Chaga's disease are not associated with one overarching ailment from the Andean ethnomedical perspective. People who may in fact suffer from Chaga's disease are attributed with a variety of conditions, such as weakness, fever, colic, and anemia. These conditions are considered distinct ethnomedical problems. Nonetheless, images of blood-sucking and fat-sucking are common descriptions of the cause of various ailments in the Andes. For instance, in my field area in southern Bolivia, the *lik'ichiri* is a vampire-like figure that stealthily sucks fat from victims unbeknownst to them, causing serious health problems which could end in death. Since health is a state of balance in

⁵ After it moves into its chronic phase, the infected person may not have many overt symptoms for several years.

Andean perception, then the loss of body fluids, as would happen when bitten by a blood-sucking bug in the case of Chaga's, would be an obvious cause of illness in this belief system (Bastien 1998:173).

Prevention measures must take all of these data sets into account in order to be effective. Working with local people and their perceptions of the illness will facilitate clinical treatment. Previous efforts that have focused on eradicating the vector—the bug that carries the parasite—have been quite effective in Chile, Uruguay, and Brazil, but less so in Bolivia. In the successful South American campaigns against Chaga's disease, the use of insecticides has been an important factor in combating the bugs that infect human populations. Perhaps through similar efforts that focus on eradicating the vector, improving the roofs in rural Bolivian houses, and using vaccinations that have thus far not been considered economically feasible, the rates of infection can be brought down.

ILLNESS AND HEALING

One of the central features of medical anthropology is its focus on concepts of illness and cultural constructions (or perceptions) of illness, including how illness is experienced and under what conditions and from who help is sought. People from different cultures tend to label disease differently, and do not necessarily see diseases from the same perspective as biomedical practitioners do. In order to understand the multiple perspectives involved, the difference between disease and illness is a useful distinction. Describing an ailment in terms of **disease** signals that the perspective originates from those who practice modern scientific medicine (biomedicine)—it is the “doctor's perspective” (Helman 1994: 101). That is, disease is caused from some external impersonal force, like bacteria, which gets into the body and sickens the person. Helman describes the biomedical establishment as a healing subculture with its own worldview, and in this worldview, disease results from scientifically identifiable pathogens (Ibid.).

In contrast to this, **illness** is a term that is used to describe the condition that is experienced by individuals, who may or may not follow this biomedical model in explaining the causes of disease. Illness is, therefore, a term that signals the ‘patient's perspective,’ and so it is not only the experience of a particular disease by a particular individual, but it is also the meaning that is given to it by the patient, which is partly influenced by the surrounding community. In many societies illness can be the result of a personal force from sorcery, for instance. The various images and phrases that people use when they are ill, such as “fighting” to get well, are likewise culturally informed. Because the terms ‘disease’ and ‘illness’ are distinct in their usage, a person may have a disease without being ill, or experience illness without a disease. For instance, a person may have the medical condition of Chaga's disease (described above) for many years without feeling ill,

and without being labeled by his/her society as a sick person. Some people with AIDS do not get very sick while others do. On the other hand, a person can feel very ill without getting a diagnosis of disease from the medical/clinical establishment. Many people report various kinds of debilitating illnesses, or chronic pain, without corresponding clinical diagnoses. Skeptics will reply that the person is imagining pain (i.e. the condition is “psychosomatic”) and others blame the medical establishment’s inability to find the cause. The important thing to focus on in this discussion is that regardless of one’s value judgment, the sick person legitimately experiences and suffers from illness—it is all too real from the sufferer’s perspective.

Considering this distinction between disease and illness, which indicates that there are multiple perspectives on ill health, it follows that there are different kinds of illnesses in different societies. Unique disorders experienced in particular cultures are called culture bound syndromes. **Culture bound syndromes** are found in all parts of the world, including the US; characteristics of culture bound syndromes are the uniqueness of the condition to particular places, and the recognition by the society of the legitimacy of the illness even though observable clinical causes may not be present. In other words, culture bound syndromes provide another example of the presence of illness (an individual’s experience of it) without a disease (biomedical pathogen). Despite the fact that these illnesses might have no pathogenic causes from the perspective of biomedical doctors, it would be inaccurate to think of them as “imaginary.” Many people experience perfectly real symptoms and become ill or regain health within the framework of particular culture bound illnesses.

In some extreme cases, people can actually die from culture bound illnesses. One of these cases is called **magical death** by the researchers who have observed it. It is also known as “voodoo death” (Cannon 1942), having variants in several parts of the world, and is not unique to one cultural group. Among Aborigines in Australia, magical death comes about from being hexed by a sorcerer. The sorcery victim sickens and dies, believing that he/she is destined to this fate. In some cases, another sorcerer or a healer intervenes to help the individual recover, but in other cases the victim is entirely resigned to the negative outcome. The condition has also been called **socio-cultural death** in that it originates from the social relations of a group of people and their ability to influence each other. This final term also indicates that there is a difference between biological death, when the body “passes away” and social death which is the point at which the society views the person as dying, even if their bodily functions have yet to cease.

Culture bound syndromes are very important to medical anthropologists because they illustrate the cross-cultural variation in illness and its perception. Culture bound syndromes take many forms, and have been documented in all parts

of the world. One good example is the eating disorder that we know as **anorexia**, which is a condition only found in the US and other westernized countries, and found mainly among middle and upper-class girls. Apparently caused by the fear of becoming fat, the condition also appears to be related to anorectics' expression of unique identities, and the mechanism by which they seek to control their lives through the control of the body and food (Banks 1994). The disorder sometimes reaches near starvation proportions, and can even result in death when the body processes begin to shut down from the imposed physical stress placed on the system.

One culture bound syndrome, found throughout Latin America, is called **susto**, translated into English as “fright.” It affects certain segments of the population (poorer, more marginalized) more frequently and signals that the victim is spiritually vulnerable (Baer 2003). Susto can affect children or adults, and the symptoms vary by age or individual, but generally the condition causes people to feel weak and listless. People with susto become pale, and they experience appetite loss and sleep problems. They are also able to identify a particular experience when they were first frightened—such as an accident, a fall, exposure to harmful wind or air, or an encounter with some kind of malignant spirit (usually at night). As a result of this experience the soul becomes separated from the body and this saps the energy of susto-sufferers and sickens them. In these instances, a ritual healer must call back the person's soul, and attempt to reunite it with the patient. Very often the healer is successful in this endeavor, so that it is uncommon, though possible, to die from susto.

Both patients and healers understand that this kind of illness is untreatable by a biomedical doctor or through the use of pharmaceuticals. Instead it must be treated ritually, by calling back the person's soul during a specific ritual, using bells and voices to bring the spirit back. A good healer is able to change the outcome of a condition of ‘fright’ through a variety of means—the spirit can be returned to the person or it could become a “diminished” spirit that needs to be “fixed, augmented, or fortified” through ritual practices (Carlos Prado, personal communication). There appears to be a connection between susto and “depression” (or in some cases “post-traumatic stress disorder”) as understood in the biomedical system. It may be that the attention focused on the susto patient and the confidence gained from the ritual treatments allow the patient to rise above the symptoms of this depression-like state. Interestingly, the healing procedures provided by traditional medicine specialists are quite effective, and patients report relief from the sessions.

Culture bound illnesses also illustrate the powerful mind-body connection of health and illness. Most people have heard of the **placebo effect**, a term which comes from clinical studies in which certain segments of the study population only

receive sugar pills, but often times have positive results without getting the medication being tested by the researchers. A good definition of the placebo effect is the positive results in healing that result from positive expectations on the part of the patient. Therefore, people who expect to get better often do. The flip side of the placebo effect is the lesser-known **nocebo effect** (or “nocebo phenomenon”), in which people will experience negative results because they have negative expectations (Hahn 1998). In one study, 80% of hospital patients who were given a sugar water solution but told that it was an emetic (causes vomiting) subsequently vomited. This illustrates the powerful effects of expectation on health. Magical death is the most extreme case of the nocebo effect, then, in that people have the negative expectation of death, which ultimately causes it in many of these cases. Though some researchers have argued that in cases of magical death victims have succumbed to dehydration or starvation rather than some mysterious ailment, we must still question the powerful nature of a cultural force that induces people to give up food and water, believing that resistance to their fate is pointless.

Medical Practitioners

Just as illnesses vary cross-culturally, so do medical practitioners. In many parts of the world, there is a kind of division of labor in healing, which allows for a wide variety of options and treatments for the person who suffers health problems. Following a **hierarchy of resort**⁶ (McElroy and Townsend 1996, Romanucci-Ross 1989), people who feel ill often first try to treat themselves, and the mother of the household is often in charge of taking care of the children’s ailments, i.e., she is the first-order healer in this system. In these instances, sick people are treated with the common medicines used for a variety of ailments, such as local herbal remedies. An example of this is the way people all over the world will self-treat colds, using standard remedies that are recognized within the society as being useful, such as eating chicken soup. When the illness is more serious, an ailing individual will consult the next order healer (in the hierarchy of resort), which in many places is an herbalist, who is a person with a broad knowledge of plants and their medicinal uses. Herbalists, often known simply as “healers” (or *curanderos* in Spanish-speaking regions) know how to prepare herbal teas, poultices, steam baths, and other herbal preparations. Besides herbalists, highly specialized individuals such as shamans and biomedical doctors are consulted for something more serious, or after other options have been tried and have failed. **Shaman** is a generic term that refers to the person in societies around the world who is a ritual specialist, but who can

⁶ A hierarchy of resort refers to the sequence of options people avail themselves of in treating an illness.

also diagnose severe health problems. Often but not always a male, the shaman can travel to the spiritual world to find out what is wrong with the ill person. Ritual treatments, such as ceremonies that involve not only the patient but the patient's family, are used to heal the diagnosed ailments. The shaman is often a person who has experienced serious illness and returned from the brink of death. Physicians may coexist alongside shamans in many places, and people who can afford to do so may avail themselves of the physician's services as well as the services of the shaman. In poor countries, however, the physician would be at the end of the hierarchy of resort because of cost and cultural beliefs. Many people will never consult a physician in their lives. **Midwives**, for example, are the specialists who deliver babies in most places, and midwifery represents one of the oldest professions. Where access to clinics/hospitals is limited, midwives deliver almost all the babies, except where mothers are expected to deliver on their own. In traditional **Ju/'hoansi** society a woman sometimes gave birth alone to show her courage and strength (Shostak 1981). Finally, **bonesetters** are a specialized group of healers found in some societies whose numbers appear to be diminishing. Where they are active, they not only set broken bones but perform some bone and muscle adjustments or manipulations, similar to physical therapists or chiropractors (Oths 2003).



Figure 3. A Lacandon Maya Shaman—the Lacandon live in the southern state of Chiapas, in Mexico. © William Coupon/Corbis

In studying this array of traditional healers, who serve various roles and offer important services, medical anthropologists can formulate ways to work alongside traditional healers instead of in opposition to them. Programs that

emphasize the integration of traditional healing with biomedicine have been successful in bringing broader health care services to communities of people who are in dire need. For instance, oral rehydration programs focus on providing **oral rehydration therapy** (ORT), which consists of administering a simple solution of clean water, sugar, and salt to children suffering from severe diarrhea. When ORT solutions are given to weakened children with few other options, many lives are saved. These ORT programs are good examples of how anthropologists can work with health care professionals to provide cures that are disseminated through both biomedical and ethnomedical health channels, providing cures to a very common cause of death in young children (Kendall et al. 1998).

MEDICAL ANTHROPOLOGY AND FOOD AND NUTRITION

Because food and nutrition are perceived as being directly related to health and illness by people in all places, it is an important area of study for medical anthropology. The data collected by medical anthropologists on food and nutrition from different groups across the world has direct application to the solution of health problems such as hunger, and in this way medical anthropologists work within the field of applied anthropology. The topic of nutrition is first and foremost one of how people meet their basic dietary requirements through the food they eat. In the United States, calculations of the Recommended Dietary Allowance (RDA), are used to measure the quantity and quality of food we consume. The study of the ‘anthropology of food,’ on the other hand, is concerned with the various cultural meanings ascribed to food, such as what items are considered proper foods, what items are to be avoided, and what is considered a necessary food to be eaten on a daily basis. It is important to note that food has symbolic and social components that go beyond its strictly nutritional value, such as a consideration of which foods are served at celebrations, the meaning of people sharing foods together when a social contract is sought, and what sorts of foods a nursing mother should or should not eat.

Knowing the symbolic and social components of food is important in understanding the total food system—for instance, certain foods won’t be adopted in a nutrition program by certain cultures even if they are highly nutritional—they may simply be culturally unsuitable. In the highlands of Bolivia, for example, a meal is not a real meal without potatoes, which is similar to the central place of rice in meals in many diets worldwide, especially in Asia. Through ‘green revolution’ programs aimed at improving yields, many new varieties of potatoes have been introduced in the Andes; when adopted, however, these varieties may be used as a cash crop but not as food for the family as their taste is considered inferior. Likewise, certain traditional varieties are used for certain purposes, such

as in the making of *chuño* (freeze-dried potatoes) and for gifts to extended family members. In highland Bolivia potatoes are centrally important in symbolic terms as well as their nutritional value, because they have a part to play in ceremonies and myth. Staple foods such as rice, potatoes, corn, wheat, barley, sorghum, and various legumes form the nutritional and symbolic core of diets in various locales. Conversely certain ‘core’ foods are considered unsuitable for consumption by people in other places; in Europe, for example, potatoes were considered to be the “devil’s food” when first introduced. People in 17th century Europe thought that potatoes were either poisonous, dangerous aphrodisiacs, or at best likely to produce flatulence (Salaman 1949). Later the potato became such an important food in the peasant diet of Ireland that when a fungus infected the monocrop, the potato famine ensued and millions died or emigrated as a result.⁷



Figure 4. Potatoes are central nutritionally and culturally to Andean diets. They were domesticated in the Andes before becoming a staple in Europe. © Lynn Sikkink

Although the example of potatoes being viewed as unsuitable food may seem unreasonable to us, most westerners would not eat grubs even though these are considered a delicious treat in many places, such as in many parts of the Amazon rain forest. Nowhere do people eat merely to fulfill their dietary requirements—they have specific ideas about what constitutes “good” and “bad” food. These food beliefs and practices sometimes emerge from widespread cultural ideas (e.g., ‘grubs are icky’), but also take specific forms in religious prescriptions such as in the avoidance of pork and beef to varying degrees in Hinduism, Judaism, and Islam. Many cultures and religions have very specific food taboos, or restrict food within a social group by age or gender (Caplan 1997, Shieffelin 1976).

⁷ Many of those of Irish ancestry in the United States emigrated as a result of the famine, which spurred a mass migration to the US.

Demonstrating the strong link to health perceptions, food and medicine are not always different categories—many foods have medicinal values for the people who eat them. Not only are some foods considered either good or bad by a group of people for cultural or religious reasons, but food is often thought of in medical ways and is considered medicine in many places. Consider the widespread notion that chicken soup is good for people with colds, or that garlic and orange juice have healing qualities. In Latin America, the hot/cold system, in which foods, illnesses, environmental conditions, and body types are classified as either “hot” or “cold,” is based on the idea that health is a state of balance, or equilibrium (Foster 1967, Lloyd 1964). In this system of logic, illness results from the body being out of balance. When a person suffers from a “cold” illness, for instance, warm herbs or other remedies must be administered as a way to balance the cold condition. Similarly, if too much “hot” food is ingested, then cooling drinks or teas should end the meal, as a way to bring the body back into a state of equilibrium. Whether through a classificatory system such as the hot/cold system, or due simply to shared qualities, anthropologists have found that the categories of food and medicine overlap in a number of societies. The Hausa, for instance, are an ethnic group centered in Nigeria who collect and use 235 wild medicinal plants, 63 of which are also used as food (Etkin 2006). Another example comes from the Andes, where the use of coca has been mainly as a medicine and stimulant, though it is also considered a famine food.

Malnutrition

Though food has many important cultural meanings, it is also true that people can simply have too little or too much of it in their diets, or the diet can contain too much or too little of certain kinds of nutrients. **Malnutrition** is the term that refers to a poorly adjusted diet, which includes cases of undernutrition and overnutrition. Patterns of malnutrition are related to economics and undernutrition often accompanies poverty. Indeed most people think of undernutrition and poverty when the topic of malnutrition arises, but even when we examine undernutrition itself, there are several possible varieties. The two most common kinds of undernutrition are protein-calorie malnutrition (PCM) and micronutrient malnutrition. With protein-calorie malnutrition, the intake of protein and calories are both insufficient, and people go hungry. PCM is also a common form of malnutrition in children, and severe forms can lead to starvation. It is estimated that around 25% of children worldwide are faced with some form of undernutrition (Dettwyler 1994, McElroy and Townsend 2004), which can lead to stunting—low height for age—or worse, wasting—low weight for age, also known as **marasmus**, or starvation (Martorell 1989). Wasting in particular can lead to developmental problems if not corrected, but one of malnutrition’s potentially

lethal complications is the number of children who die from infections because their under-nourished systems are too weak to fight them off. A common form of undernutrition in some parts of the world goes by the name **kwashiorkor**, which is an ailment that results from sufficient calorie intake, but too little protein. The disease is also known as the “weaning disease” because this is the stage when it often develops in children, as they are weaned from breast milk onto a high-carbohydrate diet (such as cassava or rice) with little to no protein to accompany it. Sometimes after the arrival of a new infant, kwashiorkor results in the older sibling because the mother weans the older child earlier than she otherwise would. Kwashiorkor victims have a ‘pudgy’ look about them because of edema (swelling) in their limbs, bellies, and faces, which gives them a “moon-faced” appearance, though they have muscle wasting and may actually be starving to death.



Figure 5. A victim of kwashiorkor, a severe form of protein malnutrition, also called the “weaning disease.” © Stephen Morrison/epa/Corbis

In her study of nutrition and infant feeding practices in Mali, Katherine Dettwyler found that a high percentage of children suffered from undernutrition, especially in urbanized areas where mothers were away from home working at wage labor jobs. Though kwashiorkor was relatively rare in Mali, there was a widespread problem with undernutrition, some of it in the form of PCM as marasmus, and some of it due to lack of specific micronutrients. For instance,

Vitamin A deficiency, which can cause blindness, was a problem in many places. One of the development programs that introduced carrots (for their Vitamin A content) and other vegetables into village gardens was not successful because people did not adopt carrots as part of their daily sauces, a staple of their diets. Iodine deficiency was another problem in Mali, leading to goiter; this condition is found in many parts of the world where iodine does not occur naturally in the soil and/ or there is no seafood in the diet. Goiter would seem to be easily preventable—the problem lies in how to introduce iodine in such a way that most people will be able to access it. For instance, not everyone will buy and consume store-bought, iodine-enhanced salt.



Figure 6. Malnutrition disproportionately affects children. Sanitation and clean water are important contributors to health—here children in Mali draw water from a well.

© Atlantide Phototravel/Corbis

After looking at the overall pattern of nutrition in Mali, Dettwyler claims that only some of the malnutrition she documented could be attributed to poverty, and that it was the attitudes and beliefs of caregivers and households that contributed significantly to the nutritional well being of children. Some caregivers believed, for instance, that children did not need good food, since they didn't work like the adults in the household. Other households, though poor, managed to feed children well and had few malnourishment problems. Therefore, in looking at the issue of malnutrition on a global scale, Dettwyler states, "the vast majority of malnutrition in Third World populations does not have one primary cause" [such as poverty] (Dettwyler 1992). Though she believes that poverty relief programs are an important factor in resolving some of the malnutrition in Mali, she also advocates introducing programs that provide self-help like credit associations that allow women, in particular, the ability to control their own lives and help their children in so doing. Dettwyler's

focus on nutrition programs that are culturally appropriate and adjusted to specific local livelihoods and beliefs illustrates the intersection between medical and applied anthropology in an approach to nutrition (see Chapter 11 in the Ferraro text for a case study on “Improving Child Nutrition in Malawi”).

Overnutrition is another form of malnutrition, which results in obesity and associated health problems. This condition is called overnutrition because it results from a surplus of calories, usually in the form of fat and sugars, but it could also be considered undernutrition in that not enough of certain foods (vegetables, fruit, and whole grains) are being consumed. Although around 10% of the households in the US experience some “food insecurity” which can lead to undernutrition of its members, over half of Americans are overweight, as measured by a Body Mass Index⁸ of 25% or more, and these obesity rates continue to rise. Childhood obesity is one of the most problematic aspects of this figure, as it is so directly related to the early onset of diseases such as diabetes, high blood pressure, gall bladder diseases, and associated heart problems, and sets kids up for a lifetime of ill health (see the Applied Perspective in Chapter 12 of the Ferraro text for a discussion of diabetes among Mexican-Americans, and the Applied Perspective in Chapter 16 for a discussion of obesity as a health issue). Like adults, children’s overnutrition arises from a combination of eating high calorie, high fat processed and fast foods, which are also cheaper than high quality foods such as fruits and vegetables. This overnutrition pattern has been dubbed an epidemic in the US and was dramatized in the movie “Supersize Me,” which shows the effects of a fast food diet on the filmmaker’s health in just a short span of time. The film also documents how the problems with obesity begin in childhood when kids get poor food in school lunch programs and begin a pattern of inactivity, for instance playing video games instead being involved in more active play. Many people wonder why a country with such a high standard of living such as the US achieves should also be plagued with the chronic health problems that are related to poor nutrition, and there is an increasing recognition that we need widespread nutrition programs to curb the trend of obesity-related health problems.

Subsistence and Nutrition Patterns

In order to understand variations in the diets of the world’s populations, medical anthropologists draw on data from across a variety of cultures, which demonstrate patterns in food-getting techniques. Comparing and contrasting types of food procurement patterns from hunting and gathering to farming helps medical anthropologists to assess the advantages and potential problems in dietary systems. From this information, medical anthropologists can serve as valuable consultants in

⁸ The Body Mass Index, or BMI, is calculated from a person’s height to weight ratio.

offering nutritional program information. For instance, to put the dietary and nutritional patterns of the US and Mali case studies into broader cross-cultural perspective, it is useful to look at how food is procured by other societies. The US represents an industrial pattern in that most of us do not produce our own food, but instead acquire it through markets, which allows us to choose from a variety of options. The food that is produced through agriculture in the US is increasingly done on an agro-industrial level. In non-industrial food-getting systems, people rely on their environments and their own skills to provision themselves and their families. Following, the **subsistence** (food-getting) patterns of four different groups of people—foragers, pastoralists, horticulturalists, and intensive agriculturalists—are discussed in terms of overall nutritional patterns. Examples of the four subsistence systems come from the contemporary world, though before the industrial pattern began to predominate, there were many more people making a living in these particular systems.

Foragers

Foragers are also known as hunters and gatherers as they rely on wild food which they collect from their surrounding environment. Where feasible they also fish, so we could call them fisher-gatherer-hunters; “foragers” is a better shorthand label. Today the few remaining foragers, such as the Ju/’hoansi of the Kalahari desert, the Inuit of the arctic, and various Amazonian forager groups are found in remote and marginal environments, where other kinds of food-getting aren’t viable. Foragers were much more numerous before the introduction of farming in human history and they occupied all types of environments, including those rich in natural resources. Imagine the foragers who lived in the Bay Area of California where San Francisco and other Bay Area communities now stand. These Native American people, known as Ohlones, had fish, shellfish, and all kinds of water fowl in abundance, as well as many different varieties of plants, a temperate environment with comfortable year-round temperatures, and many resources for building their houses and fishing vessels. Because of the rich and inviting environment, this region was the most densely populated area of what is now the United States (Margolin 1978). In contrast to this picture of a lush existence, the contemporary foragers of the Kalahari Desert of southern Africa seem to have a hard life. But despite the dry environment and difficult living conditions, the Ju/’hoansi (once known as “Bushmen”) manage a wide resource base. They hunt over 50 varieties of animals and gather over 100 varieties of plants, including the high-calorie nuts known as mongongo, which forms a core of their diet and can be stored over short periods of times (Lee 2003). The examples of the Ohlone and the Ju/’hoansi illustrate a key feature of the foraging diet—it is varied in its base, relying on many different species, and it is diverse and well-balanced in its nutritional composition.



Figure 7. Ju/'hoansi women of the Kalahari Desert eating honey, a wild and highly desired food. © Anthony Bannister; Gallo Images/Corbis

In their daily rounds of food gathering and hunting, foragers also get plenty of exercise. They are therefore not only well-nourished but also physically fit. Before contact with Europeans, foragers suffered very few heart problems or problems with the common ‘crowd diseases’ (flu, colds, tuberculosis). Their diets provided them with the necessary calories, proteins, vitamins, and minerals that mark a well-balanced diet. Micronutrient deficiencies were unlikely due to the wide variety in their diet. The potential limiting factor in the foraging diet was in occasional food shortages and seasonal shifts in what they had available to eat. For instance, the Ju/'hoansi experience a ‘lean period’ of the year, during which there is less food available, and their body weights dip correspondingly (Lee 2003). Nonetheless, the diet of hunter-gatherers is generally one of the most varied diets in terms of diversity and balance of all the systems we examine here. Contemporary nutritionists have even used this diet as a model for what modern westerners should include in their diets, describing how we need to get back to our “ancestral past” (such as the Paleolithic, or “paleo” diet). Unfortunately, the pure forager subsistence pattern is rare in the modern world. Most contemporary Inuit (Eskimos), for example, rely only in part on hunting and foragers such as the Ju/'hoansi have adopted more and more farming and wage labor into their livelihoods. Though they still do a little foraging on the side, many foragers have almost completely left their old subsistence patterns behind such as contemporary

Ju/'hoansi, whose livelihood today depends on wage labor, crop cultivation and animal herding, along with a small amount of foraging.

Pastoralists

Unlike foragers, **pastoralists** are herders of domesticated animals, whether these animals are cattle, sheep, horses, camels, yaks, llamas, or reindeer. Though pastoralists may rely on some non-animal products as a portion of their diet,⁹ they are considered pastoralists if 50% or more of their diet comes from animal products. It is not usually meat itself that forms the core of their diet, since this would involve killing too many of their herd animals and depleting the stock on which they rely, but rather they more frequently drink the milk of their animals, or in some cases take the blood from living animals—both of which are renewable resources. This provides them with a high protein diet with adequate fat.



Figure 8. Photo of the Wodaabe pastoralists of Africa, with their cattle and camel livestock. © Tiziana and Gianni Baldizzone/Corbis

One East African pastoralist group, the Ariaal, demonstrate some of the patterns typically found in pastoral nutrition (Fratkin 2004). For the Ariaal, milk is their main staple, providing 75% of their daily calories and 90% of their protein in the wet season. In the dry season, as milk supplies dwindle, blood is added to the

⁹ They either grow a few food crops themselves, or trade their animal products in the marketplace as a way to supplement their diets.

milk, providing another important dietary component, and the meat from some small livestock is consumed. The Ariaal also sell animals periodically in order to purchase items such as corn meal, tea, and sugar (Fratkin 2004). The limiting factor of this particular diet is that it may suffer from being low in carbohydrates and particular vitamins and minerals; it is for this reason that some pastoralists supplement their diet with grains and/or store bought food. Pastoralists are also at risk of going hungry when they lose their animals due to epidemics that affect animals and/or during drought. In recent years, partly due to circumscribed herding areas, many pastoralists (similar to foragers) have been faced with food shortages, and some of them have had to rely increasingly on food handouts. This has been the case for one of the Ariaal's neighboring groups, the Turkana, a very isolated pastoralist group in the past, who today have become the focus of some of the largest famine relief efforts in Africa (Fratkin 2004).

Horticulturalists

The diet of horticulturalists is based on domestication, too, though they are mainly crop-growers. Unlike other agriculturalists, **horticulturalists** have small garden-like plots, which they may have to move on a periodic basis when the soil is depleted. Their plots are garden-like in size, where they grow a diversity of plants tended with hand-held tools and a large dose of intense human labor. Because of this extensive pattern of moving their plots as needed and clearing new land to do so, horticulture is also known as **swidden** agriculture, or “slash and burn” farming; the vegetation on the new plots is often burnt before planting, and the mineral rich ashes aid the growth of the new crops.

Tropical farmers like the Yanomamö are a good example of the horticultural subsistence pattern. Inhabiting a region of the Amazon basin that straddles the border of Venezuela and Brazil, they grow their food crops of manioc, plantain, sweet potatoes, avocados, papayas, and peppers, and supplement their diet with the hunting and gathering of wild plants. Like many horticulturalists, the Yanomamö rely mainly on one main starchy food item, in this case the plantain. The Yanomamö food-getting pattern relies on the staples produced from their garden plots and on foraging practices, which defines their horticultural lifestyle (Chagnon 1992). Many tropical horticulturalists have similar patterns, in which they rely on a main starchy crop for the basis of their diet, whether it is manioc, sweet potatoes, yams, sago, or taro. In contrast to the pastoralist diet just discussed, therefore, horticulturalists have plentiful sources of carbohydrates in their diets—but their meals are high in bulk and low in nutrients. This nutritional problem may be solved by the animal protein they bring into their diet (either through hunting or by keeping domesticated animals such as pigs and chickens), or by growing or

gathering a variety of other plants to add to the diet. Nonetheless, the limiting factor of the horticultural diet tends to be protein and fat.



Figure 9. Yanomamö of the Amazon basin live a horticultural existence.
© COLLART HERVE/Corbis SYGMA

Intensive Agriculturalists

Though modern farmers mainly use heavy equipment and petroleum to grow their crops, farmers who are self-provisioning do not use heavy equipment to farm. Sometimes known as peasant farmers or **intensive agriculturalists**, these groups differ from horticulturalists in that they use the same plots of lands over and over again by fertilizing, irrigating, terracing, applying intensive human labor and, when necessary, letting the land rest (fallowing) so as to be able to re-use the plots.

In general, intensive agriculturalists have one major staple at the core of their diets, which is often a cereal crop like wheat, barley, rice, corn, millet, or sorghum. These food crops frequently make up the bulk of the diet and become very important symbolically, as we discussed in the case of potatoes. Insofar as these staple crops can be stored, they serve as a food reservoir or safety net to help people get through times of the year well after harvest. But crops are susceptible to frost, pests, and blights, and there is always the risk that a particular harvest will fail. This is one of the reasons that ancient farmers were foragers as well as farmers (as a fallback subsistence pattern, or supplement) and that peasant farmers at times offer their services in the wage labor market. Farming has always been a risky business.



Figure 10. Intensive Agriculture in Bolivia—farmers in their fava bean field.

© Lynn Sikkink

Aside from the crop risk, the limitation of the intensive agricultural diet is that the diet is often narrowly focused on one staple item, which supplies carbohydrates and bulk, and some vitamins and minerals, but not a full complement of nutrients. There is less diversity than most horticultural diets, and this can lead to some nutritional problems. In some societies, this was solved by eating several plant foods together that complement each other, like the corn/beans/squash triad. In other areas, people suffered from micronutrient malnutrition because even though they might have had fairly plentiful food with adequate calories, their diets were missing key nutrients. The following examples or micronutrient malnutrition are all linked to different problems in intensive agricultural diets.

Micronutrient Deficiencies

Pellagra is one example of a micronutrient disease, which comes from both a deficiency of niacin and protein in the diet. This is commonly found in diets that rely heavily on corn (also called maize) with little other food to supplement the corn diet. The disease is characterized by diarrhea, a rash, and mental disorders. Interestingly, this disease was not common in the corn-based diets in Central America because they softened their corn with alkali (producing the hominy eaten

in dishes like posole), which had the secondary effect of increasing the availability of niacin and protein in the corn.

Similarly to corn-based diets, people whose diets depend mainly on rice supplemented with little else, run the risk of developing a condition known as **beriberi**, which is caused by a thiamine deficiency. Beriberi can affect the nerves and lead to paralysis, or it can cause heart problems. The addition of thiamine to the diet will curtail beriberi.

Diets that lack vitamin A can lead to **xerophthalmia**, which is a leading cause of blindness today. We looked at the problem with Vitamin A deficiencies when examining the case of malnutrition in Mali; Mali also has a high incidence of **goiter** from iodine deficiency, as already noted. Vitamin A can be added to the diet as a nutritional supplement, but the problem is how to get the supplements to people who need them. It is more reliable to have a source of Vitamin A in the diet that people consume on a daily basis, like carrots.

These micronutrient diseases illustrate that the diets of intensive agriculturalists, although more stable in some ways than the other subsistence patterns discussed, also have their risks. People in agricultural societies may be eating sufficient food, but if it is not of the right kind they will develop nutritional problems nonetheless.

Medical anthropologists play key roles in not only identifying nutrient deficiencies, but in helping to develop and implement culturally-appropriate nutrition programs. A case from Thailand provides one of the best success stories for alleviating problems of malnutrition. Calling upon the help of nutritional consultants, the government dedicated its efforts to reducing the malnutrition problems faced by many Thai people—in 1982 about 50% of the population suffered from undernutrition or micronutrient malnutrition, especially vitamin A deficiency and iodine deficiency. The overall program was multi-faceted, and included education programs, improved health care, supplemental feeding of young children, improved production of food, and a program to correct detrimental food beliefs (cited in Bryant et al. 2003: 318-319). One small change introduced as a result of the Food and Agriculture Organization's work, in cooperation with the Thai government, is that vitamin A, iron, and iodine were added to the instant noodle seasoning packet that many people consumed; this one action made micronutrients available to a large cross-section of the population. Perhaps because the Thai program covered so many aspects that affect nutrition, and the government was so determined to make a difference, the positive results were dramatic. By 1990, the malnutrition level in Thailand had dropped to under 20%; by 1998 it was under 10% (Bryant et al. 2003: 318-319).

BIRTH AND REPRODUCTION

The topic of birth and reproduction is interesting to examine from the perspective of medical anthropology because though birth is a biological process, it is everywhere culturally elaborated. Features like fetal development are unquestionably biological (though even this is influenced by the mother's behavior and the environment) but other features such as ideas about conception, proper pre-natal care, birth positions, who should attend the birth, how the placenta should be handled after birth, and post-partum care of both the mother and baby are all things that vary greatly from culture to culture.

Where do babies come from? A child asking this question in some societies might be told that the baby develops from the union of a man's sperm with a woman's menstrual blood. This belief was quite widespread, and accounts for the fact that couples in some cultures believed that through intercourse a man would "cut" the woman from her "moon" and produce a child (Shostak 1981). Many societies developed birth control practices in order to reduce the chance of pregnancy. By 1500 B.C. in ancient Egypt, there is evidence that women used cervical plugs of various sorts. The earliest condoms were made of sheep gut. Herbal medicines provided another route to birth control—either they were used to reduce the chance of pregnancy, or they were used to induce abortions. These abortifacients are still common in many places, perceived in some societies as being ways to "restore the menstrual cycle," rather than ways to affect a developing fetus.

Pre-natal Care

Pre-natal care also varies from culture to culture. Although in the US there is an increasing emphasis on pre-natal classes and preparation for birth, in reality pre-natal instruction is highly variable and depends on socioeconomic level. In Sweden, for example, where there is socialized medicine, pre-natal care is more widespread across ethnic and class divisions; in the Yucatan where traditional birth attendants are common, pre-natal education is not formalized, and the new mother receives the information she needs from the midwife during labor, though prior to this she is visited by the midwife who gives her massages (Jordan 1993). Beliefs about the difference between male and female fetuses reveal cultural beliefs about gender relations. In Ecuador, gestation periods for boys are believed to be nine months, while girls' gestation period is eight months. Boy and girl babies' umbilical cords are cut to different lengths based on beliefs about the control of promiscuity (McKee 1995). Even beliefs about food and cravings during pregnancy are highly variable. In some societies people believe that a pregnant woman's food cravings must be satisfied or the fetus will be endangered, while in other places certain foods are on the taboo list for pregnant women.

Birth Practices

The actual birth itself is accomplished in a number of ways. In some cultures, like the Ju/'hoansi of the Kalahari Desert, women were expected to be stoic and to have their babies on their own when the time was right. Women were often proud of this accomplishment as a way of demonstrating the value of their “work” (Shostak 1981). In many places midwives attended the birth and still do so today—even in the US it wasn't until the early 1900s that doctors became the primary attendants over midwives, partly because of biomedicine's increasing status, and more recently because of medical liability issues.

As one case study of birth in cross-cultural perspective, Jordan documents the life of Doña Juana, a Yucatecan midwife who learned to deliver babies by helping at births, and had successfully delivered over three hundred babies with very few complications (Jordan 1993). A big difference between the delivery of a baby by a midwife and by a physician is that a midwife attends the laboring woman during the whole process while the doctor is often there only for the final phases. This is important because studies have shown that a constant attendant is important to positive birth outcomes. Birth outcomes are improved even in situations where the attendant was only an observer (Jordan 1993).

Position of the mother during labor is another variable feature of birthing practices. Only in places where women routinely give birth in hospitals—such as the US, where 99% of all babies are delivered in hospitals—is the standard birth position the lithotomy position (flat on back). In other birth systems it is more common for women to squat or kneel, and to give birth at home. After making a cross-cultural assessment of the birthing practices in four cultures—the US, Holland, Sweden, and the Yucatan, Jordan concludes that birth has been increasingly “medicalized” in systems such as the US, because of the availability of medical technology and a legal system under which physicians operate that has hampered women's ability to choose the birth they want.¹⁰ Medical anthropologists question whether this “medicalized” birth system should be exported to other parts of the world, where women currently have options that are often more accessible, affordable, and socially preferred.

Post-partum Beliefs and Practices

After the birth, cultural differences continue to influence the way in which the mother and child are cared for and perceived. Among the Hmong, for example, the placenta, sometimes considered the “companion” of the baby or its protector

¹⁰ This subject is also taken up in the film “Born in the USA” in which the medicalization of birth is documented as well as alternatives to the standard biomedical birth system.

(in the Hmong language placenta means “jacket”), is often buried close at hand. It is not thrown away (e.g., Fadiman 1997). In many cultures the mother is often secluded for around 40 days, during which time she gradually adjusts to her new child and eats fortifying foods before resuming her regular tasks. In Ecuador this 40-day period is called *la dieta*, and is seen as important in protecting the mother along with her newborn, from outside contagions (McKee 1995). The baby will be kept close to its mother in this scenario, and is held and fed frequently. On the other hand, this pattern can be disrupted by new economic conditions. When women migrate from rural areas of Brazil to urban shanty towns, where they take up poorly-paid wage labor jobs, their children suffer from the mother’s absence and reduced care, and infant mortality increases. Scheper-Hughes found that women offset the emotional difficulty of this high infant mortality rate through “selective neglect” in which only the strongest babies survive, and the mothers do not end up with an overwhelming number of children for whom they cannot care properly (Scheper-Hughes 1998).

HEALTH CARE AND CHANGE

When anthropologists document changes in the infant mortality rate and mothers’ relationships to their newborn babies in situations of migration, they are studying the effects of culture change on health care. Being part of cultural systems that are constantly in flux, medical systems are also part of the picture of change. But as culture change accelerates around the world, and more people are brought into closer contact with each other, health care systems are undergoing enormous change, sometimes losing valuable resources such as elders’ knowledge of herbal remedies. Disease itself can bring about culture change, such as when the Native North American population was decimated by introduced diseases such as smallpox and measles. But culture contact also brings about change. For instance, before contact with Europeans, the Inuit of Canada were foragers with remarkably good health; accidents were the most frequent cause of death (McElroy and Townsend 2004: 319). The Inuit food supply was varied, like other foragers, and they did not suffer from infectious diseases. After contact with Europeans, however, not only did they begin to suffer from ‘crowd’ diseases like flu, pneumonia, syphilis, and tuberculosis, but their diets changed to include more processed foods with lots of carbohydrates, which led to an increase in obesity, diabetes and heart problems. Tobacco and alcohol use also increased the Inuit’s health problems (McElroy and Townsend 2004).

One of the pressing issues in the study of worldwide health and illness is the AIDS pandemic (global epidemic). Caused by a retrovirus called the Human Immunodeficiency Virus (HIV), the immunology and epidemiology of AIDS have received a lot of attention and study from researchers, but the social and cultural

context of AIDS' spread and effects have received less attention. (See Ferraro Applied Perspective from Chapter Five for a discussion of AIDS Research, and Chapter Three for information on public health in South Africa.) In addition to the human suffering it exacts, AIDS can also be examined in terms of the disruptions it causes to social and health care systems (Farmer and Kleinman 1998). To understand who is at risk for AIDS, and how it spreads, medical anthropologists look at the ethnographic data about how and when the people interact, and under what conditions. Since what people do is not simply guided by rational choice, but also by their cultural values and emotions (Bolton 1998), developing an effective anti-AIDS program cannot work merely by spreading the right information. What anthropologists and other social science researchers can show are the cultural values and particular emotions that are important in shaping the behavior of a particular people. Medical anthropologists can work to understand AIDS transmission and prevention, but they can also help to design culturally appropriate strategies for prevention of the spread of AIDS.

SUMMARY

In looking at global health issues, and the ways in which societies treat these problems, medical anthropology serves the important function of linking local beliefs and practices to culturally-acceptable solutions. Drawing on their valuable expertise, more medical anthropologists are beginning to work within the health care profession, some of them serving as 'cultural brokers' for patients for whom the biomedical system is foreign, and others working to provide an understanding of how ethnomedicine and biomedicine can be beneficially integrated.

Medical anthropology explores beliefs and practices surrounding healing, how people stay healthy, and to whom they turn when they are sick, by examining cross-cultural perspectives on health and illness. At the same time, because medical anthropology is a broad field within anthropology that links various subfields in anthropology and is also concerned with practical applications, it provides a good example of the work of applied anthropology. By looking at culture-bound illnesses, medical anthropology helps to expose the important mind-body connection in illness and healing, and suggests that this understanding is a useful feature of maintaining good health, about which biomedical health care providers need to be aware. It is even evident that the belief in negative outcomes (the 'nocebo effect') can contribute to health problems, and thus must also be understood by health care practitioners.

Medical anthropology also offers basic data on traditional medical practices from various cultures. Where traditional healers offer valuable services in complementary ways to biomedical doctors, such as in Bolivia and China, more positive health care options are available. Understanding the valuable roles of

spiritual healers, midwives, and herbalists allows us to see the ways that biomedicine could become even more effective. For instance, the issue of malnutrition revolves around not just food, but the cultural practices surrounding it. Medical anthropologists who study nutrition can shed light on how to supplement traditional diets—which are already nutritional in many ways—with what are in some cases needed vitamins and minerals. Along a parallel vein, traditional birth attendants offer important services to mothers in places where biomedical care is often absent. Therefore these roles should be encouraged instead of discouraged in rural outreach programs. The topics in medical anthropology discussed here are certainly not exhaustive, but do provide an idea of the wide-ranging field of medical anthropology, and the practical applications of its subject. The particular case studies in this module also provide specific insights into how medical anthropologists can conduct meaningful research that will allow them to apply their knowledge to contemporary health issues.

KEY WORDS / DEFINITIONS

AIDS and anthropology – the use of anthropological knowledge and techniques to help with the prevention and treatment of AIDS

Abortifacients – traditional medicines used to induce abortions

Acute disease – a disease that develops quickly and is overly relatively quickly

Anorexia – eating disorder leading to unhealthy weight loss, classified as a

Culture bound syndrome – medical condition(s) unique to particular places

Ariaal – East African pastoralists, who live in Kenya, and whose reliance on both cattle and camels has allowed them to succeed during droughts

Beriberi – a thiamine deficiency that leads to serious disease; one of the micronutrient diseases that comes from an all-rice diet

Biomedicine – scientific medicine or the western medical system in which disease is caused by the occurrence of a **pathogen**

Bonesetters – Traditional medical specialists who set broken bones, adjust skeletal muscular injuries, and even deal with the internal organs in some cases.

Chaga's disease – **endemic disease** found in Latin America caused by the trypanosome parasite and spread by the “kissing bug”

Chronic disease – a disease that persists for a long time; sometimes not curable

Clinical data – Data from the biomedical sphere, including doctors' diagnoses, which is useful in understanding an issue in medical anthropology

Culture bound syndromes – illnesses that are unique to certain societies or cultures, and are not found worldwide

Disease – in medical anthropology, this is the biomedical definition of the patient's condition; contrasts to **illness**

Ecological/ environmental data – Data from biology, ecology, and other natural sciences that helps medical anthropologists understand the material conditions of an issue

Endemic diseases – Diseases that are unique to a particular locality, spread slowly, and are found at some level at all times in the region

Epidemic diseases – Diseases that spread rapidly and extensively among many individuals

Epidemiological data – Data from epidemiology, which helps understand the cause and spread of diseases

Ethnographic data – Data originating from the particular cultural features of a given group of people, helping medical anthropologists to understand the cultural context

Ethnomedicine – The local and particular medical beliefs of a particular group of people, systems of medical beliefs that do not perceive illness as the result of a **pathogen**

Extensive agriculture (same as **horticulture**) – Farmers who cultivate by relying on extending plots into new territory, and not on continuous use of the same plots

Fallowing – allowing agricultural plots of lands to “rest” in order to become fertile again; technique used in intensive agricultural systems

Food, the anthropology of – beyond **nutrition**, this is the cultural and symbolic elaboration of ideas about food in which only certain foods are suitable, some are taboo, and some have core symbolic value

Foragers – a system of food-getting that relies on hunting wild animals and gathering wild plants

Goiter – a micronutrient deficiency that comes from lack of iodine in the diet; causes a swelling at the front of the neck

Herbalist – Specialist in the collection, prescription, and use of herbs; usually found in ethnomedical systems that rely on particular plants to cure particular ailments

Hierarchy of resort – when a person is ill, this is the trajectory they follow in treating their illness; people first consult lower level healers before consulting specialists, whether these specialists are **shamans** or physicians

Horticulturalists – same as extensive agriculturalists; gardening-style agriculture in which hand-held tools are used, land is cleared by slash and burn (**swidden**), and new plots are opened as the old ones lose their fertility

Hot/cold system – the Latin American humoral theory of disease causation and treatment. In this system, hot and cold foods, body conditions, and medicines must be balanced to achieve health

Illness – the patient’s perception and experience of sickness. Contrasts to **disease**

Incidence – the frequency of occurrence of a disease in a population

Intensive agriculturalists – Farming system in which plots of land are used over and over; relying on the techniques of fallowing, irrigation, terracing, fertilizing, and large farming implements like plows

Inuit – Arctic foraging group who relied on mainly animal sources; Eskimos

Ju’hoansi (also! Kung) – **forager** (hunting and gathering) group of the Kalahari Desert who live in small bands, and have a very diverse and well-balanced diet

Kwashiorkor – also known as “weaning disease”; form of **undernutrition** that results from too little protein and other vitamins in the high carbohydrate diet

Lik’ichiri – “fat-sucker”; in the Andes, this vampire-like creature is considered to be the cause of illnesses; relates to the local perception of **Chaga’s disease**

Lithotomy position – Flat on the back position, only common in hospital births

Magical death – When an individual is cursed or hexed by a sorcerer, the individual will actually sicken and die because of negative expectations. Extreme form of the **nocebo phenomenon**

Malnutrition – poor nutrition because of insufficient or poorly balanced diet; two kinds of malnutrition are **undernutrition** and **overnutrition**

Marasmus – a **wasting** away of the body, associated with **protein-calorie malnutrition**

Medical pluralism – the blending or simultaneous use of two or more medical systems; and example is the use of Chinese medicine by someone who also goes to a biomedical physician

Midwives – traditional birth attendants. In ethnomedical systems, they receive their training through informal apprenticeships in which they help with deliveries

Nocebo effect (or **nocebo phenomenon**) - negative health expectations result in negative health outcomes; the opposite of the **placebo effect**

Nutrition – the process by which the body is nourished; how an organism assimilates food

Ohlones – indigenous foraging people of the San Francisco and Monterey Bay Areas

Oral rehydration therapy – a way to combat the dehydration that results from severe diarrhea; life-saving technique that has become the focus of public health programs in many places

Overnutrition – excessive intake of food, this is a type of **malnutrition**

Micronutrient malnutrition – a type of malnutrition in which one key vitamin or mineral is lacking, such as vitamin A deficiency, or iodine deficiency

Paleopathology – The study of disease in antiquity, relying mostly on skeletal material, but sometimes tissue in the case of mummification

Pandemic – an **epidemic** that is spread over an especially wide area

Participant observation – a hallmark fieldwork technique in anthropology in which the researcher learns by participating and observing simultaneously

Pastoralists – a food-getting strategy that is based on the herding of domesticated animals

Pathogen – an agent that causes a disease, such as a bacterium or fungus

Pellagra – caused by niacin deficiency, this micronutrient disease is found in some all-corn diets, such as the share-cropping diets of southerners

Placebo effect – expectation of positive health effects leads to positive health outcomes; the opposite of the **nocebo phenomenon**

Protein-calorie malnutrition (PCM) – very serious type of malnutrition in which the person is getting too little protein and calories, which results in **marasmus**, or **wasting**

Shaman – a generic term referring to a ritual specialist who is able to contact the supernatural world to diagnose or treat a patient suffering from health problems

Sociocultural death – another name given to **magical death**, to indicate that the expectation of the group is that the hexed person will die; contrasts to biological death

Stunting – inadequate nutrition will sometimes lead to under average heights but average weights; not as severe as **wasting**

Susto – translated as “fright,” this culture bound syndrome is

Swidden – another name for the ‘slash and burn’ agricultural technique, in which land is cleared for planting, and sometimes burned, allowing the soil to be naturally fertilized

Turkana – a group of East African **pastoralists**, neighbors of the **Ariaal**, who have relied heavily on food handouts in recent years

Undernutrition – one form of malnutrition; either **protein-calorie malnutrition** or **micronutrient malnutrition**

Wasting – the most severe form of **malnutrition**; same as **marasmus**

Yanomamö - a horticultural group of the Amazon basin whose territory spans the region between Venezuela and Brazil.

QUESTIONS FOR REVIEW OR DISCUSSION

1. How are medical anthropology and applied anthropology linked to each other? How is a health issue like AIDS of concern to both medical and applied anthropologists?
2. What is the difference between ‘disease’ and ‘illness,’ and why is this distinction important in medical anthropology?
3. What does ‘medical pluralism’ mean? Can you describe a situation of medical anthropology either in your health care practices, or from people with which you are acquainted?
4. What are the various types of malnutrition? Why is the topic of diet and nutrition important to medical anthropology? How does the topic of the ‘anthropology of food’ differ from nutrition?
5. Describe a ‘hierarchy of resort’ with which you are familiar—that is what was the sequence of health care professionals involved in treating a particular illness? Why was that particular order followed?

SUGGESTED FURTHER READING

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RESOURCES ON THE INTERNET

A good collection of material is available on the Society for Medical Anthropology's website, which is one of the sections of the American Anthropological Association.
<http://www.medanthro.net/index.html>

An independent collection of resources and news about medical anthropology can be found on the Medical Anthropology Web.

<http://www.medanth.org/>

A website from Palomar College provides information on cross-cultural perspectives on illness, curing, and culture specific diseases

<http://anthro.palomar.edu/medical/default.htm>

An extremely useful website about disease is the Center for Disease Control. Check out their "A-Z Index" for information about a huge number of diseases

<http://www.cdc.gov/index.htm>

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