

University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

1999

Biomedical encounters and human adaptability

Christopher Canterbury Wahlfeld
The University of Montana

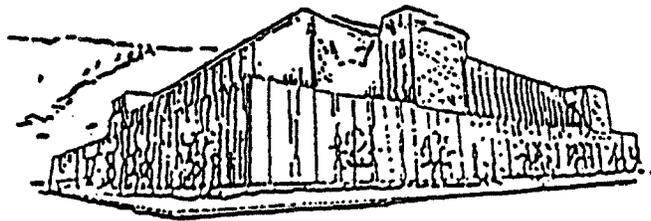
Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Let us know how access to this document benefits you.

Recommended Citation

Wahlfeld, Christopher Canterbury, "Biomedical encounters and human adaptability" (1999). *Graduate Student Theses, Dissertations, & Professional Papers*. 5400.
<https://scholarworks.umt.edu/etd/5400>

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.



Maureen and Mike
MANSFIELD LIBRARY

The University of MONTANA

Permission is granted by the author to reproduce this material in its entirety,
provided that this material is used for scholarly purposes and is properly cited in
published works and reports.

*** Please check "Yes" or "No" and provide signature ***

Yes, I grant permission

No, I do not grant permission



Author's Signature

Christopher Anthony Wabfeld

Date

25 June 1999

Any copying for commercial purposes or financial gain may be undertaken only with
the author's explicit consent.

Biomedical Encounters and Human Adaptability

by

Christopher Canterbury Wahlfeld

Bachelor of Arts

Cornell College 1993

Presented in partial fulfillment of the requirements

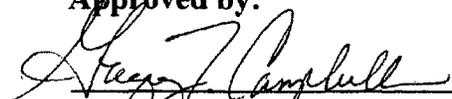
for the degree of

Master of Arts

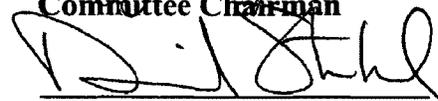
The University of Montana

1999

Approved by:



Committee Chairman



Dean, Graduate School

6-25-99

Date

UMI Number: EP40864

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP40864

Published by ProQuest LLC (2014). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Biomedical Encounters and Human Adaptability

Chairman: Dr. Gregory R. Campbell



Throughout history, human populations have developed diverse health care systems. These practices are dynamic cultural adaptations, denoting humanity's best efforts to enhance our ability to survive the trials and tribulations presented by specific ecological surroundings. As unique and numerous as humanity itself, health and healing practices are culturally constructed, forming in response not only the bio-physical stressors present within an environment, but to the ideologies and world view held by a particular community.

The boundaries separating health care systems are steadfast yet permeable. As culture contact increases, previously isolated communities have become exposed to new environmental and ideological settings. Almost inherently altering the previously held ideological conceptions of all parties involved, culture contact is often accompanied by some shift in the bio-physical environment as well. As perceptions of the surrounding ecosystem change, so shift a community's notions of health and healing.

Working from these premises, this thesis endeavors to explore contemporary health care practices in the realm of culture contact. Focusing upon the concepts of medical pluralism and medical syncretism as principal examples of human adaptability, this thesis proceeds to present a case study of the Hmong refugees residing in the United States to determine whether or not they are practicing any form of medical syncretism.

Through an examination of existing text, as well as personal communications with members of the Hmong community currently living in Missoula, Montana, it was determined that the Hmong do not currently practice medical syncretism. The Hmong, instead have adjusted their traditional health care practices, which were already pluralistic in nature, to account for the bio-physical and cultural stressors present in the United States, incorporating the benefits of biomedical health care as needed. In the end, the purpose of this thesis has been to elucidate upon the perpetual relationship between ideology, environment, and health care.

Acknowledgments

This thesis could not have been completed without the combined efforts of a myriad of good people. First and foremost, I would like to thank the Hmong people. I could not have asked for a better example of the intricacies of human adaptability. A special thank you goes out to Mary Yang, of the Missoula Refugee Assistance Center, for her kindness, knowledge, and time.

I would also like to express my gratefulness to the Chairman of my committee, Dr. Greg Campbell, for his time, intellect, extreme patience and for teaching me the rules of the game. Countless thanks go to Dr. Randy Skelton for his time, insight and support both as a scholar and as a friend. I would also like to express my gratitude to the third member of my committee, Dr. Darshan Kang, for taking the time out of his busy schedule to pertinently question and kindly comment upon my thesis.

Much appreciation also goes out to Dr. Stephen Greymorning, for his time and for opening my eyes to the complex relations between humanity and the worlds in which we live. I would also like to acknowledge Dr. Catherine Burroughs, Dr. Jeffrey Ehrinreich, and Dr. David Weddle and express my appreciation for all they taught me at Cornell College.

I raise my glass to the following colleagues who taught me more than they will ever know during our graduate careers at the University of Montana: James Flannagan, Arron Goodfellow, Scott Heron, Garry Kerr, Michael Roberts, Matt Tornow, Steve Tromly and Amy Wyman.

Finally, I would like to offer a well deserved thank you to my entire family and to Pamela Lovall for their support and their valiant efforts to put up with me during this arduous process. Thank you all.

TABLE OF CONTENTS

Abstract	ii
Acknowledgments	iii
List of Figures	v
Chapter One: Anthropology and the Study of Health Care	1
Chapter Two: History, Ecology, and Adaptation	11
History and Conceptual Divergence	13
Medical Practices as Cultural Adaptation	21
Medical Practices Through Time	25
The Historic Formation of Biomedicine	27
Chapter Three: Culture Contact, Change, and Integration	35
Political Economy, Ideology and Health Care	39
Ecology, Ideology and Medical Pluralism	43
Medical Syncretism	49
Chapter Four: Hmong Refugees in America: A Case Study	52
The Hmong	53
Traditional Healing Practices	55
Coming to America	64
America: New Concepts, New Land	67
Human Adaptability in Process	70
Chapter Five: Towards an Understanding of Healing Practices	74
References	77

FIGURES USED

Figure 1.1:

Ecosystem model depicting culture as a filter

6

Chapter One:
Anthropology and the Study of Health Care

Over the past two and a half centuries, health care practices from differing cultures have permeated, and in many cases saturated, previously isolated communities. While cross cultural transmissions have occurred for millennia, technological advances since the Industrial Revolution have increased not only the rate of culture contact, but the complexity of change relating to all aspects of culture. With this in mind, the purpose of this thesis is to explore contemporary healing practices and ecological adaptation in the realm of culture contact.

Focusing upon the concepts of medical pluralism and medical syncretism as two of the possible outcomes of extended culture contact, this paper proceeds to present a case study of the changing medical practices of the Hmong refugees living in America; attempting to determine whether Hmong refugees are currently practicing any form of medical syncretism. Ultimately, the goal of this thesis is not to present in-depth health care issues currently relevant to the Hmong population in the United States, but to elucidate upon the relationship between culture, environment, human adaptability, and health care.

David Landy (1977: 131) states that healing practices are those cultural practices "embedded in a matrix of values, traditions, beliefs, and patterns of ecological adaptation,

that provide the means for maintaining health and preventing or ameliorating disease and injury in its' members." Landy's statement reflects the complex nature of health care. Healing practices are determined by, empowered by and constrained by culture and environment. In the end it can most succinctly be stated that it is the application of healing practices which denotes humanity's best efforts to combat adversity or affliction perceived to be present within an environment.¹

Together these concepts place the specific ailments affecting a community, and therefore their corollary treatments, within the realm of ideology and world view. Both statements also recognize strong connections to ecology; maintaining that both a people's ailments and treatments, as well as a people's world view, form as a direct response to both the physical and social environments.

While medical issues can be, and often are, approached singularly from either a biological or cultural position, inherently, neither can be separated completely from the other. Therefore, like many aspects of anthropology, medical

¹ Although it was not until the emergence of modern Homo sapiens that it could be said a truly systematic approach to health and healing had been created, medical practices of some sort have existed for thousands of years, if not longer. Hominid use of healing practices may be traced back between 50 and 70 thousand years ago. Evidence from Shanidar cave in Northern Iraq suggests that some form of healing practices may have been used by Neanderthals to extend the lives of individuals within their community (Trinkaus 1978; Nelson, Jurman, Kilgore 1992: 268).

anthropology necessarily incorporates information from a multitude of disciplines and theoretical approaches to produce more accurate conclusions.

Currently considered to be a specific sub-discipline of cultural anthropology, medical anthropology is concerned with the examination of the dynamics of human health and healing.² While still a fairly young aspect of anthropology, medical anthropology has grown into a very succinct direction of study with several distinct approaches.

This thesis does not subscribe to a singular anthropological theory, but rather applies the thematic and paradigmatic concepts of medical ecology, critical medical anthropology, and ethnomedicine to study the larger concepts

² In the Early 20th century Ales Hrdlicka, one of the founding fathers of physical anthropology, wrote Tuberculosis Among Certain Indian Tribes (1909) and Physiological and Medical Observations Among the Indians of Southwestern United States and Northern Mexico (1908). In the same year that Evans-Pritchard's book Witchcraft Among the Azande was released (1934), E. A. Hooten, the other founding father of physical anthropology, stated "In my opinion, the world is in sore need of an institute of clinical anthropology, or if you like, an institute of anthropological medicine. . ." (Hooten 1937: 246). This was one of the first calls for a sub-discipline of anthropology which was specifically concerned with the examination of patterns of disease and health within a community, as well as the healing practices implemented when illness or disease were present. Hooten's proposal for an institute of anthropological medicine was based, not within the realm of cultural anthropology, but as Hooten stated; "One might define such an institution as an organization devoted to the purpose of finding out what man is like biologically when he does not need a doctor, in order to further ascertain what he should be like after the doctor has finished with him" (Ibid.).

of human adaptation and healing practices within the context of culture contact.

Medical ecology examines the ecosystem as a whole, focusing upon how individuals or individual societies relate and adapt to their environment (McElroy and Townsend 1996: 2). A central foundation of the medical ecology approach is the notion of adaptation. A concept central to this thesis. John Bennett (1976: 269) defines adaptation as "The patterns and rules of social adjustment and change in behavior by individuals and groups in the course of realizing goals or simply maintaining the *status quo*..."³ Ann McElroy and Patricia Townsend (1996:2), state that through the application of the medical ecology approach health becomes a "measure of how well a group of people has adapted to the environment."

When discussing issues concerning health and healing either within or between communities, it is helpful to look at the community as part of a larger eco-system. The concept of an ecosystem is very important not only to the study of medical anthropology, but to the discipline as a whole. An ecosystem consists of the dynamic interplay between the

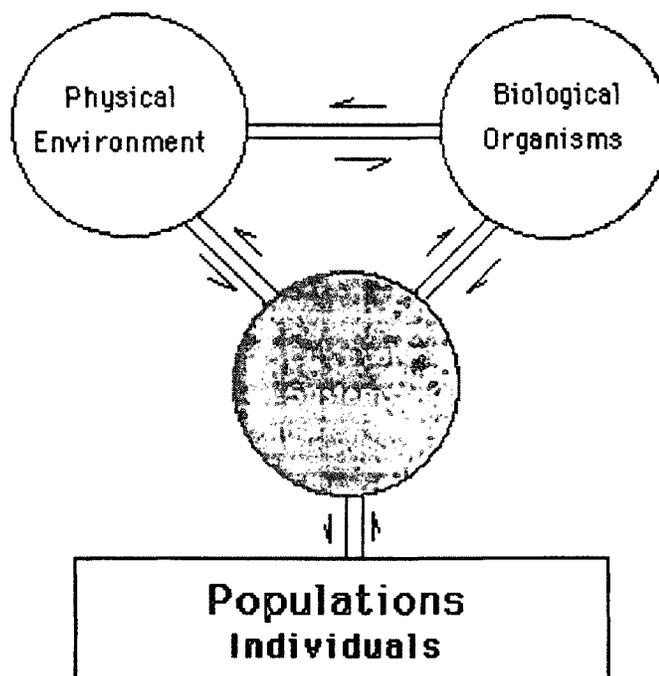
³ At this time it should be noted that adaptative processes sometimes result in actions which are actually deleterious to the community. This process is known as maladatation.

physical, biological, and cultural systems within an environment (McElroy and Townsend 1996: 24-25; Skelton 1997).⁴

It can be said that the physical portion of an ecosystem consists of those non-biological features located within an environment, such as the climate and terrain, including man-made structures. All living creatures within an environment from the largest mammal to the smallest plant or micro-organism form an ecosystem's biological component. Finally, the cultural component, consists of the multitude of cultural systems acting within and upon an environment, including religion, technology, mass mediation, kinship practices, political and economic systems, and of course, medical systems. These three environmental components together form a larger ecosystem which affects not only the components which comprise it, but both the human and non-human populations and individuals which reside therein. (McElroy and Townsend: 1996 24-25; Skelton 1995).

The cultural components present within an ecosystem are dually powerful. Not only do these systems act upon both the physical environment, and all the living organisms within, but; culture also acts as a filter through which societies define themselves and their surrounding environment.

⁴ Note that the division of an eco-system into this particular tri-component model is one particular approach. Others may define an eco-system as containing more or fewer components.



(Figure 1.1 Ecosystem model depicting culture as a filter.)

"As humans we can only experience nature as we culturally construct it, imbue it with meaning, and interact with it in ways that fit within our particular cultural frames of understanding and emotion" (Baer, Singer, and Susser 1997:39). This is the basic tenets upon which this thesis built, for health care systems not only form as a response to perceived adversity present within an ecosystem, but also manifest themselves as a response to a community's cultural construction of themselves and their surroundings. This will become ever more apparent in the following chapters.

While maintaining a distinct separation from medical ecology, it is the economic mechanisms working within a given environment that concern critical medical anthropologists. Employing a distinctively Marxist approach, critical medical anthropology posits that "the dominant ideological and social patterns in medical care are intimately related to hegemonic ideologies and patterns outside of biomedicine" (Baer, Singer, and Susser 1997: 26); e.g. capitalism, the culture of science.

Critical medical anthropology's "understanding of health issues begins with analysis of the impact of political and economic forces which pattern human relationships, shape social behaviors, condition collective experiences, re-order local ecologies, and generate cultural meanings, including forces of institutional, national and global scale" (Singer and Baer 1995: 65).

Neither the medical ecology or critical medical anthropology approaches can be put into practice without information and hopefully knowledge concerning ethnomedical systems. McElroy and Townsend (1996: 11), state that the ethnomedical approach "often attempts to discover the insiders' viewpoints in describing and analyzing health and systems of healing. Among the topics studied in this subfield are ethnoscience, ethnopharmacology, shamanism, altered states of consciousness, use of alternative therapies, midwifery, medical pluralism and others." Ethnomedical studies act as a

cross-cultural platform spanning biomedical and other non-western ethnomedical practices.⁵

Health care systems are truly dynamic survival strategies which emulate a culture's perception of their surroundings; changing as a people's understanding of their world changes. Through the integration of history and anthropological theory, the following chapters endeavor to explore health care and human adaptability in the face of cultural and ecological change.

In order to fully understand the many facets of a community, and in turn its approach to health care, it is important to have a firm grasp on the historic components which helped to shape its socio-cultural composition over time. As Edmund Pellegrino (cited in Foster and Anderson 1978: 39) states, "Every culture has developed a system of medicine which bears an indissoluble and reciprocal relationship to the prevailing world view. The medical behavior of individuals and groups is incomprehensible apart from general cultural history." Through the promotion of the historic similarities and distinctions between biomedicine and ethnomedicine, chapter two not only explores health care systems as dynamic entities which, like other cultural systems, change over time,

⁵ While often depicted as distinct from every other form of health care, it should be noted that biomedicine is nothing more than Western society's most dominant ethnomedical system.

in relationship to their larger ecosystem, but also defines the generalized categories of healing available to the Hmong in contemporary America.

Chapter three examines health care systems within the context of culture contact. Briefly describing the effects that culture contact has had on the general health of global communities as well as influencing the transformation of traditional health care systems, this chapter presents culture contact as a major external impetus, stimulating a population's adaptive strategies.

Health care strategies used by a community become even more intriguing when accompanied by the increasing coexistence of differing health care systems within a singular society. Therefore, chapter three proceeds to focus upon the concepts of medical pluralism, leading into a brief discussion of medical syncretism. Offering definitions and examples of each, this chapter ultimately explores the interplay of health care systems as adaptive processes.

The fourth chapter presents a contemporary case study of how the Hmong refugees currently residing in America have adapted to the health care issues present in the United States. Beginning with a brief history of the Hmong people and the political issues which led many of them to America, this chapter proceeds to define traditional Hmong health care as it is practiced in Laos, Thailand, and now the United States. Focusing upon human adaptability, this chapter briefly

explores factors affecting Hmong use of America's biomedical health care system.

Chapter five re-assesses health care systems in the context of culture contact. This concluding chapter discusses not only the concepts explored in this thesis, but looks also to the future of health care systems in increasingly plural societies.

Chapter two:
History, Ecology, and Adaptation

"The history of medicine is, in fact, the history of humanity itself, with its ups and downs, its brave aspirations after truth and finality, its pathetic failures. The subject may be treated variously as a pageant, an array of books, a procession of characters, a succession of theories, an exposition of human ineptitude, or as the very bone and marrow of cultural history"

- Fielding Garrison 1913 cited in Nuland 1988: vii.

Lorna Rhodes (1990: 170), aptly states that "how one thinks of biomedicine makes a difference in medical anthropology, influencing research, teaching, and one's orientation in one's own society." In fact, Rhodes' statement may be expanded to note that how one thinks of any ethnomedical practice makes a difference, not only in the context of medical anthropology, but in the overall discourse of health care. ¹

This thesis endeavors to explore the widespread articulations between Western "biomedical" health care with other ethnomedical systems. In order to fully understand the many junctions between differing forms of health care it is important to have a knowledge of the basic tenets of the system(s) which are being researched. Accordingly, this

¹ The power of discourse has been noted for several decades if not centuries, note the military's use of propaganda. As a discipline, anthropology underwent a period of increased reflexivity during the mid to late 1980's. During this time, authors and editors such as Clifford and Marcus (1986), and Marcus and Fischer (1986) composed works which, reflect the powerful influence of language, text, and ultimately positionality. Readers specifically interested in discourse as it has been applied to medical anthropology, may want to refer to the work of Jean Comaroff (1993) and Donna Haraway (1993).

chapter strives to orient the reader toward an understanding of biomedicine and ethnomedicine within a larger historical and ecological design.

The term biomedicine came about as an attempt to distinguish Western health care from other ethnomedical systems (Baer, Singer and Susser 1997: 11). Unlike most ethnomedical systems which "interweave illness, health maintenance, religion, and social relations," biomedicine is based wholly on scientifically provable, biological measurements of health (Scrimshaw and Burleigh cited in Bastien 1996: 7). "In essence, biomedicine subscribes to a type of physical reductionism that radically separates the body from the nonbody" (Baer, Singer and Susser 1997: 11). Joseph Bastien (1996:6) reiterates this disparity between biomedical and other ethnomedical approaches to healing when, referring to the former, he states, "Social, cultural, and behavioral factors are not considered significant causes of disease in this mechanistic, physiological model."

Even through the brief presentation of these examples it can already be inferred that a differentiation between biomedicine and other ethnomedical practices exists on both levels of ideology and praxis.² The relationship between these components is both obvious and eternal. Healing practices and health care ideologies are firmly bounded while ultimately

² Praxis is defined as application, practice, as opposed to theory.

permeable on many levels, influencing and taking cues from each other throughout time and space. While leaving the majority of specifics to other text, the remainder of this chapter moves to bring to light several of the points where biomedicine and other ethnomedical practices appear to be dually bounded and permeable. Through this process I intend to elucidate on several of the factors which influence healing practices and our perceptions thereof; i.e. ideology, discourse, environment, technology, and praxis.

History and Conceptual Divergence

The meaning of the term *medicine* to an Indian was quite different from that which is ordinarily held in white society. To most Indians, medicine signified an array of ideas and concepts rather than remedies and treatment alone (Vogel 1970: 24).

It is fairly clear that medical systems do differentiate on many levels both within and between communities. Anthropologists have not only recognized many specific differences, but in many cases have propagated further distinctions. A primary example is W.H.R. Rivers' classic work Medicine, Magic and Religion (1924) where Rivers promotes a strong distinction between ethnomedical practices and biomedical practices. Upon examining Rivers' writings, Edward Wellin (1977: 50) states, "Within Rivers' outlook, primitive and modern medicine constitute wholly separate universes of discourse. By focusing on world view and its linkages with belief and behavior, Rivers can find no way to accommodate magico-religious and naturalistic-scientific world views

within the same inquiry." Almost twenty years later Baer and Singer (1995: 17) summed up the same work with the statement, "Rivers imposes an impenetrable wall between indigenous and scientific medicine . . ." Rivers distinguished biomedical practices from other ethnomedical practices along the lines of the "magical and religious" and what Wellin described as the scientific or natural (Rivers 1924: 60, Wellin 1977: 50). In other words, Rivers demarcates medical practices on a most basic and culturally permeating level, that of the sacred in contrast to the profane.

Mircea Eliade defines the sacred as "a reality of a wholly different order from 'natural' realities" (1987: 10).

It is this sacred approach to diagnosis and health care which is manifest in the majority of ethnomedical practices. Reifying the ideological bindings between religion, health and healing, the categorical prototype of many ethnomedical practices has been the multi-variant notion of shamanism.³ Michael Harner (1990:40) posits that shamanism "represents the most widespread and ancient methodological system of mind-body healing known to humanity."

³ The word shaman is a term which comes from the Tungan word *saman* (Drury 1989: 11). The term stems from "the Indo-European verb-root, *sa-*, meaning 'to know'... (h)ence the cognate *saman* conveys the literal meaning of 'he who knows'" (Ripinsky-Naxon 1993: 69). For right or wrong this word has become a generic term issued to denote, medicine men, wizards, eagle doctors, curanderos, and other forms of indigenous healers worldwide.

The role of a shaman within a community is multifaceted, representing the specific needs of the community in which they reside. For example, Mark Plotkin (1993: 96) states that some Amazonian shamans act "as priest, pharmacist, psychiatrist and even psychopomp." Shamans possess a specific, "sacred" knowledge, distinguishing them from other members of their community. "They [shamans] understand the laws of ecology; the balances established at the time of Creation; and the guidelines given to human beings by the creating deities" (Beck, Walters, and Francisco, 1992; p.102). If the guidelines set forth are not properly followed, then imbalances in the ecosystem occur, resulting in ramifications such as illness or disease.⁴

In general, the generation of imbalances may be considered to be the result of witchcraft, spirit intervention, soul loss, broken cultural taboos, or a dissonance between the spirit world and the physical world (Plotkin 1993: 203, Foster and Anderson 1978: 37). In order to alleviate certain imbalances between the community and the environment, shamans act as living axis mundi communicating with the spirit world, often through a trance-like state which Harner (1990: 21) refers to as a shamanic state of

⁴ Note that the differences between shamanistic practices and biomedical practices already appear to be a matter not of kind but of degree, based upon differences in perception and cultural embellishment.

consciousness.⁵ Through this action, shamans enter the realm of the numinous, a cultural practice which thematically contradicts the mechanistic ideology of biomedical practices.

There is no doubt that in comparison to other ethnomedical systems, biomedical practices have removed many aspects of the sacred; defining concepts of illness, disease, and health almost completely in scientifically observable and measurable terms. Biomedicine is almost completely desacralized.⁶ Illnesses are defined by the type of bacteria or virus which has afflicted the body, as opposed to any larger cultural etiology. Disease and illness are treated using scientifically proven methodologies and pharmacopoeia; rejecting the sacred, reifying the profanity of biomedicine. Again the relationship between ideology and praxis becomes increasingly apparent.

The majority of biomedical practitioners are highly specialized in a particular aspect of healing practices such as trauma, surgery, pediatrics, psychiatry, optometry, or dermatology. Unlike shamanism, an individual biomedical practitioner does not act as a healer of the whole individual,

⁵ Eliade (1987: 35-37) defines an axis mundi as a break in profane space, a point of communication between the natural and supernatural worlds, often manifest as a pole or a ladder.

⁶ Note that many Western hospitals are named after Christian saints, e.g. St. Patrick's, St. Francis, St. Luke's, etc. Other hospitals remain completely secularized e.g. Community.

let alone an entire community, but rather focuses on a particular aspect of a patient's body or mind. Any form of "sacred" healing required is often relegated to the religious leaders within the community.

Another line of demarcation that has been drawn between biomedicine and ethnomedicine is based upon the binary opposition of the modern and the primitive. Holdovers from early anthropological and Western medical ideology have allowed practitioners of both disciplines to refer to ethnomedical practices as being "primitive" for several reasons. One of the most obvious reasons for this distinction is rooted in the fore-mentioned distinction between the sacred and the profane.⁷

⁷ Since its inception, western culture has depicted biomedicine as the only truly valid form of healing practice. While not coincidental, it is noteworthy that biomedicine emerged during a very critical period of history. The effects of the Industrial Revolution still gripped Europe and America, and Charles Darwin's concepts of evolution were slowly gaining acceptance. Science and technology were becoming the stepping stones into the next century. It was also around this time period that the early cultural evolutionist Lewis Henry Morgan wrote his book *Ancient Society* (1877). This book codified the cultural evolutionary position that societies progressed becoming increasingly advanced over time. Morgan categorized societies into the three main evolutionary groups: savagery, barbarism, and civilization. Morgan then sub-divided the two latter groups into levels of lower, middle, and upper status (Garbarino 1977:28-29). Morgan stated that Greece, Rome, and Egypt were the only ancient societies that achieved the level of civilization. Morgan went on to state that the only existing example of modern civilization, at the time his book was published, was Europe. Following these concepts, and the technological advances that occurred during the late nineteenth century, it becomes increasingly easy to understand how Europeans and Americans viewed biomedicine as the more noble form of medical treatment. Even into the mid-twentieth century, anthropologists and western medical doctors have

Contemporary Western society has come to ideologically equate secular and technological advances with medical superiority. Humanity's recently acquired ability to specifically pinpoint bacteria and virus which science has determined to be the cause of certain ailments, combined with our ability to harness nature in culturally acceptable forms to treat certain ailments, mirror Western society's attempt to conceptually conquer nature and essentially re-create a sense of the "natural." Once such a conception is understood, it is not difficult to see how it may be assumed that a community which lacks such advances, technological or otherwise, and which therefore relies upon differing, often less technological explanatory models to diagnose and treat ailments, i.e. the supernatural, has come to be viewed by Western society as being less than modern.

The premise that traditional healing systems do not achieve the same caliber of competency and authority as Western medical systems is not uncommon. Western ethnocentrism toward the efficacy of Western medical practices over indigenous healing practices is stated clearly in several text, including the writings of a Quaker man named John Townsend who in the 1830's, when camped near the lodges of the Kowalitsk Indians in Oregon stated:

portrayed biomedicine within this light of superiority.

There is in one of the lodges a very pretty little girl, sick with intermittent fever; and today the 'medicine man' has been exercising his functions upon the poor little patient; pressing upon its stomach with his brawny hands until it shrieked with the pain, singing and muttering his incantations, whispering in its ears, and exhorting the evil spirit to pass out by the door, &c. These exhibitions would be laughable did they not involve such serious consequences, and for myself I always feel so much indignation against the unfeeling impostor who operates, and pity for the deluded creatures who submit to it, that any emotions but those of risibility are excited (Carmichael and Ratzan 1991: 158).

Townsend went on to state:

I had a serious conversation with the father of this child, in which I attempted to prove to him, and some twenty or thirty Indians who were squatted about the ground near, that the 'medicine man' was a vile impostor, that he was a fool and a liar, and that his manipulations were calculated to increase the sufferings of the patient instead of relieving them (Ibid.: 158).

This quotation epitomizes the permeation of scientific thought into not only Western healing practices, but into the Western world view as a whole. Once an ideology has been formed it often holds steadfast, especially when legitimated by other culturally constructed concepts. Referring to similar

notions present in more contemporary health care, Charles Leslie (1977: 512) states, "Their (cosmopolitan medicine's) representatives brand other forms of curing as 'irregular' or 'fringe' medicine, thus putting them ideologically outside of the medical system." Timothy Dunnigan, whose statement could apply to any group or community, states "The kinds of metaphorical language that we use to describe the Hmong say far more about us, and our attachment to our own frame of reference than they do about the Hmong" (cited in Fadiman 1997: 189).

What all of these statements recognize is that there is an ideological continuum which links all aspects of a community and that this link is punctuated when manifest in socio-cultural domains such as religion and health care. As Anne Fadiman (1997: 60) stated when gaining first a glimpse at the profound nature of Hmong healing practices, "Medicine was religion. Religion was Society. Society was Medicine."

This is not to suggest that there are not tremendous distinctions between the biomedical system and other ethnomedical systems, in fact it confirms that there are, but the perceived contrariety of these systems becomes less significant, and the true nature of healing practices are illuminated, when health care practices are viewed within the context of ideology and environmental adaptation.

Medical Practices as Cultural Adaptation

Adaptation occurs on genetic, physiological, and behavioral levels. While each form of adaptation relates to survivability and therefore on many levels health, this paper is almost solely concerned with cultural adaptations. The most quickly alterable, cultural adaptations, are those specific behavioral adaptations which are shared by members of a society (McElroy and Townsend 1996: 98). These forms of adaptations are not passed on genetically, but rather transmitted culturally from one generation to the next and from one society to another through verbal and non-verbal communications.

Humanity has harnessed its' cultural adaptability like no other creature. Populations have created systematic approaches to health care. Approaches which are determined by the stressors present within specific ecological niches, and manifest in relation to specific cultural ideologies held by a society.

Healing practices articulate with an ecosystem on biological, physical and cultural levels. The articulations of health care to the physical and biological environment can be equated to other cultural adaptations, such as the use of clothing. Among many societies, the use of clothing, or lack their of, is determined by the surrounding environment.⁸ For

⁸ I note that this is the case in many, not all, societies due to the cultural concepts concerning the use of clothing which

example, we do not find members of an Inuit tribe residing near the Arctic Circle wearing the same type of clothing as members of a Mehinaku community living closer to the equator in Brazil. Both communities dress in attire that represents not only a particular cultural style, but the particular environmental needs of their community.

Healing practices are shaped in a similar manner. The physical and biological environments pattern the template upon which the cultural embellishments distinguishing health care practices are placed. Societies which exist in environments where an infectious disease, such as smallpox, is not present would have no need to adapt their healing practices to account for such a stressor. In turn, a community, such as that of the Tirió Indians of Suriname, which coexist in an ecosystem which is also inhabited by a species of river stingray, have adapted their healing practices to include actions which treat stingray related injuries (Plotkin: 1993: 120-122).

If we approach this example from a different perspective, a community which recognizes their coexistence with malevolent spirits adapt their healing techniques to effectively treat illness or disease caused by such entities. In turn, it is

have overridden the behavioral adaptation, e.g. In the United States, businessmen are often found wearing two or three piece suits in ninety degree weather. While they would be, more than likely, better adapted to their physical surroundings if they were to shed some of those clothes, American culture dictates the dress code of American professions.

unlikely that such adaptations would be found within communities that do not perceive the existence of malevolent spirits within their ecosystem. Again, it is the environmental ailments, imagined or otherwise, which dictate the basis of health care practices.⁹

Health care practices also articulate with the physical and biological environments in relation to resources available. Just as a community residing in Brazil is unable to create clothing from seal fur, health care providers can only incorporate curative materials which are present within their environment.¹⁰

On a separate, but equally important level, the manifestations of healing practices are bound by the ideologies present within a society. In other words, healing practices resonate with a community's interpretation of the world in which they live. To maintain the analogy between healing practices and clothing, while society's have adapted to the climatic stressors present in an environment through the creation of clothing, using material present within their

⁹ The use of the term imagined here is not intended to denote a sense of reality vs. fancy, but instead reflects the cultural construction of world view.

¹⁰ Note that this is one ecological boundary that has been altered immensely with increased culture contact. As chapter three states, contemporary biomedicine has acquired much of its pharmacopoeia from cultures living in different environments.

environment, the specific designs or styles of the clothing are culturally determined and therefore often differ, even between societies living in similar ecological niches. Healing practices are bound by the same ecological and cultural rules.

Thomas Gregor (1977: 332) notes "Throughout much of aboriginal North and South America, there are broad similarities in the techniques used by shamans to cure their patients." While broad based similarities clearly exist, the particular rituals performed, terminology used, cosmology recognized, and pharmacopoeia available are unique to a specific people. In other words, the specific needs and perceptions of a community are further embellished through culture.¹¹

As briefly mentioned in the previous chapter, medical practices are just one of many cultural systems which, when linked with the physical and non-physical environments, form a larger ecosystem. As dynamic cultural systems, healing practices change in response to fluctuations within the larger ecosystem. In essence it may be said that health care systems adapt. The adaptive nature of healing practices, as related to larger ecosystems, becomes increasingly clear when viewed historically.

¹⁰ For further information as it pertains to biomedicine, refer to the work of Lynn Payer (1988).

Medical Practices Through Time¹²

Exploring healing practices throughout history, Lois Manger states, "Shamanistic, religious, and empirical approaches to healing are....universal aspects of the history of medicine" (1992: 65). Of the oldest known written records describing medical practices, many are contained in ancient religious text.¹³ For example, healing practices still used in parts of contemporary India have been described and culturally transmitted and relatively maintained through several of the Hindu Vedas which are said to represent writings from between 4500 and 1000 B.C.E. (Manger 1992; 39). The *Ayurveda*, or *The Science of Life*, is considered to be the source of all knowledge concerning Hindu pharmacopoeia and health care. Said to be written by Brahma, the "First Teacher of the Universe," this particular Veda is composed of eight branches: "internal medicine, diseases of the head, surgery, toxicology, demonic

¹² While researching the history of medical practices, it came to my attention that most of the literature on this subject refers, not to the history of medical practices, but to biomedicine's links to historically powerful "civilizations" such as the Greeks. The majority of the literature briefly discusses aspects of ancient medical practices which would not be considered scientific by today's standards.

¹³ This should come as no surprise. World religions, like healing practices, reflect a communities understanding of the world in which they reside. As pointed out in the pages following, in many contemporary and historic communities, healing techniques were embodied within the larger auspices of religion.

diseases, pediatrics, rejuvenation, and aphrodisiacs" (Manger 1992: 39,41). The Vedas state that disease was a result of "sin or the work of demons" (Ibid.: 39). In response to such perceived disease etiology, "Specific remedies and surgical techniques could only be therapeutic when combined with the appropriate ritual" and therefore cure often "required confession, spells, incantations, and exorcism" (Ibid).

Like Hindu medical practices, contemporary Chinese health care practices are also based within an ancient text. Associated with the third and final of China's Celestial Emperors, Huang Ti, the *Nei Ching* was composed approximately twenty-five hundred B.C.E. ¹⁴ This work promotes a medical philosophy based upon the balance of yin and yang, and the five elements: earth, metal, water, wood and fire. (Manger 1992: 48). Under the teachings of the *Nei Ching*, disease was attributed to an imbalance of yin and yang. Treatment of such an imbalance might involve "curing the spirit by living in harmony with the universe, dietary management, acupuncture, drugs, and treatment of the bowels and viscera, blood and breath" (Manger 1992: 51).

¹⁴ While spelled differently, Huang Ti or Hoang-ti, it is interesting to note that this Chinese emperor, who is associated with the most ancient Chinese healing text known to date, is the same Chinese emperor that will be referred to in chapter four as defeating the Hmong people and the impetus for their relocation to the mountains of southeast Asia.

The information contained within both of these ancient text not only dictate the cultural template for "proper" living within a specific communal environment, but in turn; promote the proper techniques for diagnosis and treatment of ailments.

Like other forms of health care the early Greek medical practitioners, the culturally and historically determined progenitors of modern biomedical thought, also believed that illness and disease maintained both cultural and biological etiologies. (Manger 1992:64, Wilcocks, 1965:11). But, as stated earlier, while founded in such concepts, the medical system that would eventually became known as biomedicine disavowed many social etiologies and focused upon the biological. By examining the history of biomedicine, we can explore the ecological factors which, over time, altered Western society's perception of their world and consequently their medical practices.

The Historic Formation of Biomedicine

Western biomedicine traces its origins back to the ancient Greek physician Hippocrates of Cos and the second century C.E. Greco-Roman, Galen of Pergamon (Nuland 1988; 32, Manger 1992: 86-87). While oversimplifying his work and influence, it is important to note that Hippocrates explained health and disease through reason; stating that such matters were aspects of the natural ecosystem (Manger 1992: 68). Hippocrates' work stated that nature acts to maintain a

balance between the natural elements; which were immanently related to the bodily humors (Nuland 1988: 12-13).¹⁵

Galen's notions about medicine extrapolated from the works of Hippocrates. Galen believed the Hippocratic principles of balance between the four humors and the four qualities, but through experimentation and observation Galen took early Greco-Roman medical practices to a separate level. While dissection of human remains was prohibited under Roman law, Galen performed dissections on other species of animal, including non-human primates (Manger 1992: 89-96). Galen's experimentations lead to one of the first books on human anatomy, De Usu Partium. These were ideologically altering events and as Manger succinctly states, "Galen established the foundations of a program that would transform the Hippocratic art of medicine into the science of medicine" (1992: 90 italics in original).

The works of these two physicians both complimented and opposed each other. Sherwin Nuland (1988; 34) aptly describes

¹⁵ It is interesting to note the similarities between the Hippocratic thought process and the Chinese thought process found in text the *Nei Ching*. While the *Nei Ching* refers to a five fold system consisting of five phases (earth, metal, water, wood and fire) five firm organs (heart, spleen, lungs, liver and kidneys) and five hollow organs (gall bladder, bladder, stomach, large intestines and small intestines); the Hippocratic approach refers to a four fold system which includes the four elements (fire, air, earth, and water) four humors (yellow bile, blood, black bile, and phlegm) and four associated qualities (hot, cold, moist, and dry) (Manger 1992: 49-50, 71).

the juxtaposed teachings of the two healers when stating, "The Hippocratic physicians had rejected supernatural forces in order to learn the ways of Nature; Galen studied Nature in order to learn the great and perfect ways of his creator." While approaching their work with seemingly opposite theoretical premises in mind, in the end, the combined works of these two healers would demarcate the emergence of the scientific method in Western medical practices. Yet a truly explicit science of medicine would not exist until centuries later.

Early European health care practices were not based in science alone. Scientific thought was paralleled by religious influences. Religion was, and is, one of the most salient aspects of a culture. Comparable to a culture's medical system(s), religions not only reflect, but shape a people's world view.

Eleventh century monasteries promoted a religious approach to health and healing by training their own medical practitioners to "uphold the Christianized ideal of the healer" (Manger 1992: 105). Like the ancient Greeks, medieval healers fell back upon the supernatural when the relief of illness or disease was beyond their control or scientific understanding. Another example of how aspects of the sacred were retained within early European forms of health care was to maintain that the job of the healer was, in many cases, to relieve the patient of pain, while the power to cure the

patient rested with God alone. (Carmichael and Ratzan 1991: 63, 68). A notion which still prevails within certain contemporary American communities.

Galenic and spiritual conceptions continued to influence Western medical practices for many centuries to come. Though as political views and ideology changed, so changed Western assumptions about the humanity, how our bodies work and our relation to the rest of the world.

As the centuries passed, the drive toward a science of medicine continued to gain momentum. In 1543, Andreas Vesalius wrote De Humani Corporis Fabrica. The first truly accurate depiction of human anatomy. Vesalius' work, and the work of other Renaissance physicians like the surgeon Ambrose Paré, continued to pave the road toward medicine based upon empiricism as opposed to the less tangible approaches of religion or philosophy (Manger 1992, 159-164; Nuland 1988: 62-64). Science was slowly becoming a more dominant explanatory model. But, during the same time period in which Paré and Vesalius were making great scientific strides, ideas of the supernatural and the occult continued to flourish throughout Europe. Countering scientific assumptions concerning health and healing were the disciplines of alchemy and astrology. (Manger 1992: 167-170).

The changes in European health care during the turn of the Seventeenth century, were explicitly linked to the changes in cultural, political, and intellectual thought taking place

at this particular time in History. The "dark ages" were over, and new concepts concerning the nature of the world were being conceived. Accordingly, as European world view changed, so did the European notions of health and healing.

The scientific revolution continued to transform Western concepts of the human body and health care. Dr. William Harvey published his findings on the heart and circulation of blood in 1628, effectively disproving earlier Galenic thoughts and increasing the intellectual influence of scientific thought (Carmicheal and Ratzan 1991:100; Nuland 1988: 132). Western conceptions of the human body were becoming based less upon assumptions and spiritual rhetoric and more upon the profound revelations constructed by science.

During the eighteenth century, scientific thought continued to permeate European and American healing practices. Robert Whytt (1714-1766) and Luigi Galvani (1737-1798), produced some of the initial scientific works on the nervous system (Bynum 1994: 14). Western medical practices, many now deeply rooted in the sciences, were showing their first signs of growing into Western society's predominant approach to health care: biomedicine.

But, while Western "scientific" medicine continued to distance itself from religion and concepts of the supernatural, many alternate medical practices maintained their footholds within Western health care. One such medical practice held over from the earlier centuries was the concept

of bleeding or leeching. This form of healing practice held that blood-letting had medicinal affects and could be used to treat such ailments as "epilepsy, hemorrhoids, obesity, tuberculosis, and headaches" (Manger 1992:203). A common practice during the Eighteenth century, blood-letting is credited with reliving people of many things, including reliving America's first president, George Washington of his life (Ibid: 205).

As scientific thought gained momentum, its influence increased. By the mid Nineteenth century the underlying cultural premises behind scientific thought were entering the realm of the taken for granted. Inexorably linked with technological advances such the invention of the stethoscope (Lanneac 1816), and the discovery of general anesthesia, and broad ranging concepts such as germ-theory, European and American healing techniques were effectively changed forever. Biomedicine eventually came into being, focusing purely upon the biological components of health care and becoming a truly diagnostic, science of medicine.

Healing practices are often regarded as paralleling, if not reifying, truth. And, in fact this is the case, they parallel a culturally designated truth. Biomedicine found its truth to lie in the palm of scientific thought, while other ethnomedical systems have found truth to lie equally, if not more, in the realm of the sacred. In both instances, these truths are culturally constructed and represent a community's

best effort to not only define and relate to their world but to survive within it.

As the previous pages have shown, medical practices are extremely dynamic. Based upon knowledge that has been culturally transmitted, between coexisting communities and from generation to generation, healing practices have formed and changed in relation to a community's perceptions of the world in which they exists.

Edmund Pellegrino summarily states, "Medicine is an exquisitely sensitive indicator of the dominant cultural characteristics of any era, for man's behavior before the threats and realities of illness is necessarily rooted in the conception he has constructed of himself and his universe" (cited in Foster and Anderson 1978: 39). Just as the use of shamanistic practices codifies a community's world view, reflecting and promoting the cultural and ecological rules by which a people live, so do biomedicine and all other forms of health care.

It is readily noted that these conceptions that communities have constructed of themselves and their environments are in constant flux, much as the environment in which they exist, both are changing, adapting, in relation to internal and external forces.¹⁶

¹⁶ This is not to suggest that ecological components (cultural, or otherwise) do not maintain a stable basis. Extrapolating upon Pierre Bourdieu's (1998: 168) diagram exploring doxa as it applies to culture, we can recognize that all components of

This chapter has briefly described numerous internal and external influences which not only help to differentiate global healing practices, but which influenced the formation of the contemporary hegemonic medical system known as biomedicine. It is now that this paper turns to look upon the influences that differing health care systems have had upon each other.

an ecosystem maintain both levels of the disputed and levels of the undisputed.

Chapter Three

Culture Contact, Change, and Integration

As chapter two discussed, cultures are dynamic survival strategies; continually changing in response to a multitude of internal and external forces, perceived or otherwise, which manifest themselves within an ecosystem. This chapter focuses upon one of the most abrupt external influences directing socio-cultural change: culture contact.

Contemporary societies are no stranger to culture contact. Throughout human history culture contact has been a notable presence, altering human populations through the diffusion of cultural and genetic information. The extent to which culture contact affects a given population rests upon a plethora of factors including differences in group population, technology, mass mediation, finances, ideology and language; the specific circumstances of contact and of course, the length of contact.

History offers many examples of the influence that culture contact has had on health and healing issues around the world. Explorers and conquerors from the Old World irrevocably altered Native American history, not only through acts of colonization, but through the Old World diseases they brought with them. Europeans introduced diseases such as "smallpox, chicken pox, measles, diphtheria, whooping cough, influenza, malaria, yellow fever and possibly typhoid" (Settipane 1995:1). The abrupt influx of these diseases made

it virtually impossible for Native Americans to combat these ailments through cultural or biological adaptations. Consequently, the morbidity rate of Native Americans within the first hundred years of contact was astounding. "Some estimates are that Old World diseases might have killed 95% of the native Indians" (Ibid.). This fall in population, connected to disease from abroad, had a profound effect on major historic events in the Americas. Settignano (1995:2) notes, "If it were not for smallpox, Cortes and his conquistadors may have been annihilated but instead are given credit for a resounding victory."

But, disease transmission, like the transmission of culture does not flow in one direction alone. And, in the case of culture contact between Europeans and the indigenous populations in the Americas, the results would be far reaching. Syphilis, a treponemal disease presumed by many to have been foreign to Europe prior to Columbus' voyage, began to appear in Spain by 1493 (Settignano 1995:3). Thought to have been "brought back by the crew of the Colombian expedition from Spain or by Indians Columbus brought with him," many Europeans would succumb to the effects of syphilis in the centuries that followed the expedition (Ibid).

Both the European and the Native American populations were diminished by the abrupt transmission of new diseases into their environments. Neither population had been exposed previously to the specific ailments brought into their

environments. Therefore, neither group maintained either a biological immunity or a culturally formulated treatment for such ailments. While such initial culture contact has often proven fatefully lethal, as we can recognize through living populations, with time; populations do adapt, both culturally and biologically, to new influences.¹

Like any other aspect of culture, a community's healing systems are not immune to the influences of contact. In its relation to health and healing, contact has been as culturally beneficial as it has been damaging. Contemporary biomedical pharmacopoeia, for example, would not be nearly the powerhouse that it is today if it had not been for the diffusion of cultural knowledge. As Mark Blumenthal (1995: 59) states, "There are 121 prescription drugs in use today in many different countries in the world that come from only 90 species of plants. Of those, 74 percent came from following up native folklore claims."²

¹ For the Europeans, syphilis was initially combated through the use of fever treatment. This cultural adaptation came about when Ruy Diaz de Isla of Spain, a medical doctor who treated some of Columbus' men noted that high fever tended to ameliorate syphilis (Settipane 1995: 3). In the case of the Native Americans, Settipane (1995: 2) suggests that "interbreeding among the Indians and Spaniards saved the Indians from extinction."

² Virgil J. Vogel's book, American Indian Medicine, and Mark Plotkin's book Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in The Amazon Rain Forest, contain further information about the specific plants used by indigenous people of the Americas and current research performed by ethnobotanists.

Anthropologists have made a difference also, both knowingly and inadvertently altering health care systems. In his book, Napoleon Chagnon (1983) offers an example of the effects that both culture contact and anthropology have had on traditional Yanomamö health care. Chagnon (1983: 199) states, "With these increased contacts came new dangers to the Yanomamö, particularly health risks. In 1967, while participating with my medical colleagues in a biomedical study of selected Yanomamö villages, we collected blood samples that clearly showed how vulnerable and isolated the Yanomamö were: they had not yet been exposed to measles. Thus, in 1968, when we returned again to extend this study, we brought 3000 measles vaccines with us to initiate an inoculation program in the areas we visited."

In this particular instance, Chagnon recognized that the Yanomanö people would not have had the time needed to adapt to a measles epidemic and, along with the other researchers, made a possibly controversial judgment call determining that intervention was the most reasonable response on their part. While this thesis is not the place for an ethical debate on Chagnon's actions, what should be recognized is that the methods of intervention used by Chagnon altered Yanomamö healing practices.³

³ This is not suggest that the "fly on the wall" approach to ethnographic study is more appropriate. Anthropologists and anthropology students alike recognize that communities are altered by the mere presence of a new individual, let alone

Political Economy, Ideology and Health Care

Proponents of critical medical anthropology, remaining true to their Marxist foundation, explore the relation between culture contact and health care practices in the light of political-economic patterns. Since its inception biomedicine has come to dominate global health care practices forming a medical hegemony.⁴ A medical hegemony, as defined by Baer, Singer, and Susser (1997: 14), is "the process by which capitalist assumptions, concepts, and values come to permeate medical diagnosis and treatment." Biomedicine initially spread its hegemonic wings across the globe riding the coattails of missionaries and European colonists.

"The cultural circumstances of colonialism shaped the conceptual, professional, and political dimensions of Western medicine so that in the process of its transmission abroad, it acquired a new dimension of acting both as a cultural agent in itself and as an agent of Western expansion" (Basiten: 1992: 11). Baer, Singer and Susser (1997: 210) affirm the relation between political-economy and medical practices noting, "Joseph Chamberlain, the British Secretary of State for the Colonies, promoted the establishment of the London and

one from a differing culture. But it is also recognized that one's approach has many ramifications.

⁴ A hegemony "is achieved and maintained through the diffusion of self-interested values, attitudes, ideas, and norms from the dominant group to the rest of society" (Singer and Baer 1995: 62)

Liverpool schools of medicine in 1899, noting that 'the study of tropical disease is a means of promoting Imperial policies'." (Chamberlain originally quoted in Doyal 1979: 240). While often at the expense of other culture's beliefs, the establishment of such schools symbolize British ability to culturally adapt to perilous aspects of a new environment.

Baer, Singer, and Susser (1997: 210), further state that "Disease as a major obstacle to European expansion in Africa, Asia, and the Americas prompted the attachment of medical personnel to merchant marines and the creation of rudimentary hospital facilities at overseas trading posts" These actions denote not only European attempts to keep themselves alive in a new environment, but also their attempts to alter indigenous world view. For "Whereas the shaman tends to be an integral part of indigenous societies as both a macroreligious practitioner and a healer, the occupant of this role generally poses a threat to the priest and the physician in state societies, including capitalist ones" (Ibid: 216).

Such actions are not uncommon. In his article, Patrick Twumasi (1990) offers an example of alteration of traditional health care systems via the coercive quality of religious ideology. Twumasi (1990:193) states, "Due to ritual practices inherent in some traditional practices traditional healers were also looked down upon, at this point in time, by Christians. Traditional healing therefore lost its prestige

and stigma was attached to it. Its healers became 'persona non grata'."

The influence of religion has played an immense role in the alteration of indigenous health and healing throughout history. McElroy and Townsend (1996: 291) offer the following description culture contact in the Arctic:

Anglican missionaries arriving in 1894 provided food and medical supplies, attempted to persuade people to stop using alcohol, and taught people to read and write in Inuktitut (the Eskimo Language) with syllabics, a writing system first developed by missions with the Cree Indians. They also attempted to discredit the Angakot, the shamans, who had been successful in the past in ritually treating chronic and stress-related illness but who could not deal effectively with infectious disease.

While empirically, it can be recognized that no singular medical system can treat every ailment, Western physicians, blinded by the embellished constructs of their world view, were unable to recognize either the limitations of biomedicine, or the strengths of indigenous healing techniques for, "such an admission would run counter to the belief that Victorian civilization was the acme of human achievement" (Turshen, cited in Baer et.al. 1997: 212).

It is through these examples that the power of ideology and discourse becomes explicit. Western notions of the truth of science not only fed off the concept of Western superiority, but stoked the fires of colonialism. Lying at the heart of many indigenous and folk systems, healing practices became one of the front lines to fight battles of morality and legitimacy. It is not surprising then that the suppression of ethnomedical practices continues well into the twentieth century. Basiten (1992: 53), notes:

Towards the second half of the twentieth century, doctors and pharmacists campaigned against the 'backward' practices of herbalists, depicting them as obstacles to scientific medicine. Herbalists were prohibited from practicing medicine in many places. Some were arrested, tried, and imprisoned for short sentences. Others were classified as *brujos*, witches.

By undermining a people's traditional healing system, missionaries, physicians, and government agencies ultimately undermine a people's culture. While such actions make it easier to promote a differing world view, reifying a plethora of power relations, they also signify the constrained views of the hegemonic agencies involved. While there is no doubt that contemporary health care issues continue to be fraught with multi-level power relations, major changes in the thought of

Western health care would come about with the 1977 "pronouncements of the World Health Organization, urging member nations to incorporate traditional healers into their national health systems wherever feasible..." (Heggenhougen 1980: 235).

While insightful papers could be written on this passage alone, for this thesis, it is only important to recognize this passage as turning point in thought. Culture contact does not inherently lead to the devastation of one community due to exposure to new cultural or biological agents. While not underestimating the inherent power relations within and between communities, it is now possible to focus upon another prospect of culture contact: coexistence.

Ecology, Ideology and Medical Pluralism

While recognizing the immense influence that political-economy has had health and healing, it is important to remember that these systems are culturally bound, and ultimately just a portion of an inter-related system functioning within a larger ecosystem. It is this level of the cultural system, not just the political-economic system, that this chapter attempts to consider.

The coexistence of differing cultures within a larger society is commonplace. In such a state, contemporary communities are constantly being exposed to the ideological constructions of their neighbors. Not surprising then, it often occurs that one or more of the groups in contact undergo

an intense re-evaluation of their own perceptions of the world. This is known as acculturation. When differing health care systems are in contact for extended periods of time, the acculturation process may occur. Attempts to integrate differing health care practices occurs on the individual, communal, and societal level. While acculturation may often be less devastating than assimilation, it is no less strenuous.

Bastien (1992: 47) reminds us that, "The process of integrating ethnomedicine and biomedicine involves opposition and adaptation by their practitioners"⁵ Understandably so, for both geographic and ideological boundaries must be permeated and new perceptions of the surrounding environment, both social and physical, must be established. While plausible, it is the ideological boundaries which tend to remain, long after the geographic boundaries have been pervaded. This is a common result of contemporary culture contact which has direct ramifications for health care practices.

As McElroy and Townsend (1996: 304) recognize, "It is rare for a society to have a unitary health care system, with only one option for dealing with illness." The United States presents the clear example of a tremendously heterogeneous health care system. As Baer, Singer and Susser (1997: 9) note,

⁵ Keep in mind that biomedicine does not have to be one of the ethnomedical systems involved.

"In the U.S. context, examples of ethnomedical systems include herbalism among rural whites in Southern Appalachia, rootwork among African-Americans in the rural South, *curanderismo* among Chicanos of the Southwest, *santeria* among Cuban Americans in southern Florida and New York City, and a variety of Native American healing traditions." Each of these healing systems coexist not only with biomedical practices, but with each other.

The presence of more than one type of health care system within a singular society is known as medical pluralism. Baer, Singer, and Susser (1997: 10) find it difficult to define medical pluralism outside the context of political economy stating, "Patterns of medical pluralism tend to reflect hierarchical relations in the larger society. Patterns of hierarchy may be based upon class, caste, racial, ethnic, regional, religious, and gender distinctions." They further state, "Medical pluralism in the modern world is characterized by a pattern in which biomedicine exerts dominance over alternative medical systems, whether professional or not" (Ibid: 212).

While it is recognized that political-economy influences individual and community the health care options, medical pluralism does not have to be locked into a discourse based purely on power relations. As Bastien (1992: 12) states, "It is possible to disengage the science and art of biomedical healing from these colonial or neocolonial, inequitable, and

hegemonic trappings so that the benefits of modern science can meet the challenges of hunger, poverty, ethnicity, racism, and disease." Once removed from these "trappings" medical pluralism may be viewed more readily as a form of cultural adaptation, as opposed to a form of cultural coercion.

Medical pluralism allows individuals within a community to exploit a variety of health care options. Alternate forms of health care may be chosen due to their ability to symbolically represent a community's world view, or because it accommodates a health care need not represent within another health care practice.

Medical pluralism offers a choice of health care practices based upon the biological and social needs of an individual. Accordingly, the degree to which differing forms of health care practices interact varies in relation to the particular situation. An individual may seek the specialized knowledge of a dermatologist to remedy any skin problems they may experience, and may seek the knowledge of a cardiologist to answer questions concerning their heart. A dermatologist, while knowledgeable does not have the specific information required to perform heart surgery, and vice versa, a cardiologist does not have the specialized knowledge needed to diagnose the many manifestations of skin cancer. The same analogy is also true for health care outside of biomedicine. An individual may seek treatment from a shaman for soul loss,

while an herbalist may be consulted in attempts to relieve an ailment considered to be more "natural."

Describing medical pluralism in Malaysia H.K. Heggenhougen (1980: 239), states "It was found that most physical problems are thought to have a simple and natural cause, and are therefore often brought to a cosmopolitan practitioner for treatment. Should the problem persist, however, the etiology of the problem is usually reconsidered and a supernatural cause is deemed likely (or the illness could be felt to be a result of breaking a rule of custom, adat, or caused by ethical misconduct) and thus bomoh treatment is felt to be most appropriate."⁶ Malaysians have adapted, determining the use of healing practitioners on the basis of etiology, ideology, and biological need.

Medical pluralism should be understood as existing on several levels. First and foremost, the concept of medical pluralism implicitly denotes the existence of more than one distinct form of health care within a singular society, often inferring the coexistence of biomedical practices and an alternative form of healing (McElroy and Townsend 1996: 304). But Medical pluralism may also refer to the plural characteristics working within a particular health care system (Minocha, 1980: 217). Again, the United States presents a

⁶ A bomoh is traditional Malay folk healer (Heggenhougen 1980: 237).

clear example. For while a component of the larger heterogeneous health care system in the United States, biomedicine is inherently pluralistic on its own. As noted in chapter two, biomedical practices have been sub-divided into several specialized fields which together form a larger whole.

On a separate level, the concept of medical pluralism connotes the use of differing healing practices by individuals members of the society.

In other instances an individual may seek treatment from two or more differing healers to treat aspects of the same problem (Heggenhougen 1980: 239). As stated in chapter two, many ethnomedical practices are inherently linked to the sacred beliefs held by a community, recognizing both biological and cultural determinants of health. Accordingly, instances which require biomedical treatment may be supplemented with other ethnomedical practices to restore a cultural as well as biological sense of well-being.

Referring to such movements as they manifest in Malaysia Heggenhougen (1980: 239) suggests, "Such duplicity of use might simply be a matter of wanting to try to 'cover all bets' - but it might equally reflect a concern of most Malaysians for the 'why' as well as for the 'how' of any but the most minor and transient ailments." As Heggenhougen (Ibid: 239) further states, the latter has been described in other countries suggesting that "the question 'why' is often as important, or more so, than the question 'how'."

Medical pluralism denotes a singular possible outcome of health care practices in contact and offers a variety of adaptive possibilities to society as a whole. Another possible outcome is medical syncretism.

Medical Syncretism

Medical syncretism may be defined as the melding of two or more originally differing medical practices. Bastien states that medical syncretism occurs when "bio- and ethnomedical practitioners combine healing techniques, sharing each other's professional knowledge" (Bastien 1992:38). Baer, Singer, and Susser offer the example of the "medicine of systematic correspondence" a form of Chinese healing system associated with Confucianism that "incorporated the concepts of *chi*, yin and yang, and the Five Phases with homeopathic magic" (Unshuld cited in Baer, Singer and Susser 1997: 207-208).

Bastien (1992) explores the multifaceted relationship between medical practices in Bolivia describing Florentino Alvarez, a traditional Kallawaya herbalist, as syncretizing traditional herbal knowledge with biomedicine. "Florentino oscillated between ethnomedicine and biomedicine, an ambiguity that enabled him to examine and criticize both systems. At different times, he adopted nature curing with water therapy, and at others he resorted to biomedicine" (Bastien 1992: 60). While never fully integrating biomedical practices with traditional Kallawaya herbal techniques Florentino Alvarez acted as a bridge "between traditional ethnomedicine and

revolutionary biomedicine" (Ibid: 60). Heggenhougen (1980: 237) briefly offers insight into medical syncretism in Malaysia noting that "In the rural areas they (traditional Indian physicians) sometimes practice a combination of homeopathy, Ayurvedic and Siddha medicine."

While very similar to medical pluralism, the distinctions between medical syncretism and medical pluralism can be viewed as a matter of degree. At the very most, medical pluralism can be looked upon as differing medical systems working cooperatively or competitively towards the same ends. The diverse healing systems within plural society functioning parallel to each other. On the other hand, medical syncretism posits a distinct integration of one or more previously differing healing systems.

Another distinction lies on the level of health care practice. Unlike medical pluralism, which works on individual and societal levels, medical syncretism functions on an institutional level. Non-care givers cannot be syncretic.⁷

⁷ Medical Pluralism

Functions on a societal level.

Functions at the individual level.

Healing practices function parallel to each other; either complementing or competing against one another.

Medical Syncretism

Functions on an institutional level.

Only involves the individual at the professional level, e.g. care givers and health care practitioners can function syncretically.

Healing practices integrated into one entity.

The acculturation process reifies the adaptive qualities of a community. Medical pluralism and medical syncretism are two of the adaptive strategies that human populations have adopted to cope with a variety health care practices and health care needs. Both strategies are shaped by the changing cultural and biological components acting upon a community in the midst of culture contact. When the perceived qualities of the surrounding environment shift, so do the constructed qualities of health care practices. The following chapter presents an example of such a case through the exploration of Hmong health care practices and how they have changed, if at all, since arriving in the United States.

Chapter Four

Hmong Refugees in America: A Case study¹

The preceding chapters have defined the ideological boundaries which separate biomedicine from other ethnomedical systems, and considered the influences of culture contact on health care. The boundaries delineating health care systems are well fortified yet permeable changing as a community's perceived needs change. Recognizing the definitive connectedness of the biological, physical and cultural environments and their impact health care practices, chapter four focuses a specific encounter between biomedicine and a non-Western ethnomedical system.

The following case study, involving Hmong refugees in the United States, endeavors to present information concerning a particular ethnic group currently residing in America and how they have altered or maintained their use of health care practices in response to the perceived stressors present within their new environment. The following pages discuss the physical and cultural influences on Hmong health care both in Asia and in America. Through the presentation of this case study, this chapter seeks to promote a clear perspective of the various ecological determinants which permeate and bind healing practices.

¹ The information contained in this chapter was gained through existing text, as well as personal communications with members of the Hmong community currently inhabiting Missoula, Montana.

The Hmong

While the precise emergence of the Hmong as a discernible Asian ethnic group is unclear, the Hmong have been recognized as a distinct people since approximately the second millennium B.C.E. (Fadiman 1997: 14; O'Connor 1995: 80; Otake 1995 :2). The earliest known account of the Hmong people comes from a Chinese legend dating to approximately twenty-seven hundred B.C.E.. The legend depicts the defeat of the Hmong Chieftain, Ch'oh-yu, by the Chinese Emperor Hoang-ti. (Fadiman 1997: 14-15; Ingram 1980:17). According to one narrative, after their defeat, the Hmong retreated to the higher elevations in the southern China. "This is how the Miao became mountain people"² (Father Savina cited in Fadiman 1997: 15).

Historically; the Hmong have maintained this occupation of the higher altitudes of southeast Asia, seldom residing "in villages below 1,000-3,000 meters above sea level" (Conquergood 1989: 42). Father Jean Mottin is quoted as saying, "Seek among the highest and most inaccessible mountains and there you find them, for it is here that they find home!" (Fadiman 1997: 120). The movement of to higher elevations effectively isolated the Hmong people from other

² The Hmong have historically been referred to as the Miao or Meo, derogatory terms which as Fadiman (1997:15) points out were used up until the 1970's. Differing linguists have translated the terms Miao or Meo to mean "barbarians, bumpkins, or wild uncut grasses" (Ibid :14).

ethnic groups for centuries, essentially codifying the Hmong world view.

The traditional placement of Hmong villages at higher altitudes has played an important part, not only in preservation of Hmong ethnic identity, but also in the formation of Hmong health care. For not only did the high altitude decrease the amount of culture contact, virtually eliminating one potential reservoir of disease transmission, it also acted to determine the other type of physical and biological stressors to which Hmong communities were exposed. Hmong ideology not only viewed the higher altitudes as home, but in turn came to demonize the lowlands. The Hmong preference the highlands came to reflect their conception that the lowlands, which they refer to as "the land of the leeches," abounded with elements that cause illness. (Faidman 1997:120). Hmong belief of a kinship between altitude and illness was culturally and biologically verified when Hmong families, who were forcibly relocated into the lowlands after 1976, became afflicted by diseases, such as malaria, to which they had not previously been exposed (Ibid: 158).

Studies in medical anthropology, epidemiology, and medical geography have shown that the contraction of certain diseases is linked to specific factors which exist within particular ecological niches. For example, it is recognized that the *Anopheles* mosquito, a malarial vector, cannot survive

at high elevations (Fadiman 1997: 158).³ On the other hand, individuals occupying ecological niches at higher altitudes must adapt, culturally and over time biologically, to other physical stressors such as decreased temperatures.⁴

While the Hmong decreased their exposure to certain biological ailments by traditionally living at higher altitudes, Hmong health care needs were far from uncomplicated. Traditional Hmong health care practices formed in direct relation to the stressors present within a mountainous environment (i.e. terrain, climate and disease vectors) and those manifest in relation to Hmong world view (i.e. cosmological imbalance).

Traditional Healing Practices

While some Hmong have converted to Buddhism or, more so in the United States, Christianity, traditionally the Hmong have practiced a form of ancestor worship and animism (Bliatout: 1986 352-353; Dunnigan 1986: 47, Lee 1986; 55).⁵ Many Hmong believe that they coexist with a variety of spirits which Bliatout (1986:352) neatly places into the categories of ancestor spirits, nature spirits, house spirits and evil

³ For further information see Peter Brown's 1986 work on malaria and adaptation.

⁴ For further information concerning human adaptations to cold climates refer to the writings of A.T. Steegman (1975).

⁵ Animism is defined as "a belief in indwelling spirits in natural objects and phenomenon" (Keesing, 1981: 507).

spirits. Each of these forms of spirit play a role in traditional Hmong lifestyles, and as the following pages suggest, often it is these spirits which affect an individual's or group's health (Ibid: 352).

"The Hmong cosmos has its own coherence and internal logic. It is richly equipped to explain the mysteries of life and to enable meaningful action in the world. All the premises that support Hmong culture are rooted in a deep belief about the primacy of spiritual reality," states Conquergood (1989: 46). It is this "internal logic" which must be understood in order to conceptualize Hmong health and healing, on its own and as it relates to biomedicine.

The Hmong view the world as a fluctuating entity with which they seek to maintain a balanced relationship. An imbalance or disparity in this relationship manifests as illness within the community (Thao 1986: 370). Fadiman (1997: 10) offers a fairly comprehensive summary of the Hmong etiology of illness stating:

"The Hmong believe that illness can be caused by a variety of sources including eating the wrong food, drinking contaminated water, being affected by changes in weather, failing to ejaculate completely during sexual intercourse, neglecting to make offerings to one's ancestors, being punished for one's ancestor's transgressions, being cursed, being hit by a whirlwind, having a stone implanted into one's body by an evil

spirit master, having one's blood sucked by a *dab*, bumping in to a *dab* who lives in a tree or a stream, digging a well in a *dab's* living place, catching sight of a dwarf female *dab* who eats earthworms, having a *dab* sit on one's chest while one is sleeping, doing one's laundry in a lake inhabited by a dragon, pointing one's finger at the full moon, touching a newborn mouse, killing a large snake, urinating on a rock that looks like a tiger, urinating on or kicking a benevolent house spirit, or having bird droppings fall on one's head..."⁶

While numerous, these examples of Hmong disease etiology are but a small representation of the manner in which Hmong health care is rooted within and a reflection of Hmong perceptions of the bio-physical and cultural environments. But of the myriad of possible impetus for illness, Fadiman (1997: 10) and Thoa (1986: 367) state that the most common is soul loss. A notion which appears to be categorically incompatible with biomedical ideology.

The Hmong ideology dictates that the body is home to more than one soul. According to Eliatout, (1986: 351) there are in fact three major souls: "one which lives in the head area, one in the torso area and one in the legs area." But this number

⁶ A *dab* is a malevolent spirit (Fadiman 1997: 4).

is not static, reflecting the internal dynamics of Hmong culture the number of souls thought to inhabit the body varies. In contrast to Bliatout's notion, the Hmong shaman in Missoula, Montana believes that only two souls reside within the human body; one which is predominantly with us during the waking hours, and one that predominantly watches over us during our dreams (personal communication 07/96).

As Dwight Conquergood (1989: 44) suggests, the exact number of souls thought to reside in the body varies depending upon who one speaks with, or whose text one reads. Conquergood, who worked with the Hmong both at the Ban Vinai refugee camp in Thailand and in Midwestern America, has noted the number of souls residing within one body to range between seven and thirty-two (Ibid: 44). Irrelevant of the number of souls an individual perceives to be residing within the body, Hmong hold that the loss of one or more of these souls results in serious illness and possibly death. (Bliatout 1986: 351; Thao 1986: 368).

Hmong etiology of soul loss is extensive. Fadiman (1997 10: 20), Thao (1986: 367) and Conquergood (1989: 44) all note that souls can leave the body due to emotional states such as depression, fear, or anger. Fadiman (1997: 10) further suggests that newborns are particularly susceptible to soul loss noting, "Babies' souls may wander away, drawn by bright colors, sweet sounds, or fragrant smells; they might leave if a baby is sad, lonely, or insufficiently loved by its parents;

they may be frightened away by a sudden loud noise; or they may be stolen by a *dab*."

Fully acknowledging the importance of the body's souls, the Hmong practice various forms of prevention against soul loss; "...wherever they [Hmong] go, before returning home, they usually utter words that say it is time to go home, and the soul, wherever it is at that moment must return, too" (Thao 1986:368; Fadiman 1997: 11). Another form of prevention is performed during an infant's *hu plig*, or soul-calling ceremony. Soon after a Hmong child is born, an animal is sacrificed in order to invite a soul, preferably an ancestor, to enter the child's body (Fadiman 1997:11). After the soul has entered the body, white strings are tied around the infant's wrist in attempts to bind the soul to the child (Ibid). Through my own field work with the Hmong living in Missoula, Montana I witnessed a structurally similar ceremony which was carried out in attempts to strengthen or replace the soul if an individual who became ill later on in life (participant 06/97).

If, at any point in a Hmong's life, it is recognized that soul loss has occurred, then time is of the essence, for Hmong ideology holds that wandering souls can transform into the souls of other life forms if separated from its human host for an extended period of time. (Thao 1986: 368). Hmong ritualists are brought in to perform a soul-calling ceremony, similar to the one described above. If initial soul calling does not

work, then a *txiv neeb*, a shaman, must be summoned. According to Conquergood (1989: 47) "The shaman is the one who can actually cross the threshold between earth and sky, and human and spirit, and enter the side of reality that is unseen, but nonetheless real, to rescue captured or fugitive souls, battle the evil ogres, or reconcile an offended nature spirit."

As with many other shamanistically based communities, the role of the Hmong shaman is paramount to the formation and maintenance of Hmong cultural identity. Conquergood (1989: 47) explains the importance of the Hmong shaman stating, "The more I studied Hmong culture and shamanism, the more I realized that the shaman epitomized the Hmong belief system. The shaman, however, is more than a radiant cultural centerpiece, he or she is the active agent of cultural process, dynamically exercising and mobilizing the core beliefs of the culture."⁷

Like biomedicine, traditional Hmong health care is structurally pluralistic.⁸ Relying not only upon shamanism,

⁷ As a point of clarification. While many indigenous shamans have been categorized a maintaining variety of socio-cultural positions, this is not necessarily the case with the Hmong. Lemoine (1986: 339) states that "Contrary to some reports, a shaman never performs religious rites as such, like the funeral, the releasing of a dead person's soul or the commemorative buffalo sacrifice to dead parents. If a shaman is seen taking part in a ritual, it is never as a shaman, but in his capacity as a ritualist after he has secured a further qualification." According to Lemoine, the role of the Hmong shaman is explicitly defined by the performance of soul retrieval.

⁸ Dermal treatments are often a first line of defense, treating body aches and pains. Herbal treatments used as

Hmong health care houses two other distinct forms of healing, each of which focuses upon specific health care needs.

A second component of Hmong health care encompasses the use of herbs for healing. Hmong herbalism functions parallel to shamanistic practices; concentrating on the many natural and organic ailments which affect the Hmong (Thao 1986: 371). While a large number of Hmong families maintain a small herbal garden for medicinal use, only certain members of Hmong society have the skills and knowledge needed to use the larger Hmong pharmacopeia (Bliatout 1986: 357; Fadiman 1997: 98, Thao 1986:366). In fact, the ability to acquire the cultural knowledge needed to prepare Hmong herbal remedies is sex specific; possessed by Hmong women alone. This specialized knowledge is passed down from generation to generation, often along family lines (Thao 1986: 366-367).

Fadiman (1997: 34-35) presents a glimpse into the comprehensiveness and complexity of Hmong herbalism referring to Catherine Pake, a public health nurse, who "published an article in the *Journal of Ethnobiology* identifying twenty medicinal plants she had collected under the tutelage of Hmong herbalists, which, in various forms- chopped, crushed, dried, shredded, powdered, decocted, infused with hot water, infused

needed to treat several symptoms, often natural (Thao 1986: 371), and shamans are used to treat ailments which can only be cured through interaction with the spirit world.

with cold water, mixed with ashes, mixed with sulphur, mixed with egg, mixed with chicken- were indicated for burns, fever, weakness, poor vision, broken bones, stomachaches, painful urination, prolapsed uterus, insufficient breast milk, arthritis, anemia, tuberculosis, rabies, scabies, gonorrhoea, dysentery, constipation, impotence and attacks by a *dab ntxaug* a spirit who lives in the jungle and causes epidemics when he is disturbed."

The third set of Hmong healing techniques are often grouped together under the title of dermal therapies. Like Hmong herbal therapies, dermal treatments are used to treat illness resulting from "natural" causes (Thoa 1986: 371). Types of dermal treatment include pinching, the application of a heated cup to the skin, burning the skin with plants or cotton swab, and coin rubbing (Fadiman 1997:34; McElroy and Townsend 1996: 311). Bliatout (1986: 357-358), differentiates yet two other forms of Hmong dermal therapy as those performed by the masseuse and "needle users." Bliatout (1986: 357-358) states that the Hmong use massage treatment to relieve various body aches including, headaches, muscle aches and stomachaches, while needle users perform treatments which relieve "blood pressure problems."⁹

⁹ Dermal treatments are the only form of Hmong healing in which a patient is physically touched by a healer, and usually sex based, with men treating men and women treating women (Fadiman 1997: 73).

As the previous pages have depicted, Hmong ideology, especially that relating to the formation of health care, emulates the environment which the Hmong traditionally inhabited. As Doa (1993) states on the very first page of his text, "The natural environment creates the setting in which the Hmong develop; it is through his contact with nature that man shapes his character and forms his concept of the world. The essential features of Hmong sociology can be devised from a study of their *human* environment."

Exploring Hmong health care prior to their journey to the United States, it is possible to acquire a crisp understanding of how the Hmong perceive and relate to their environment. Their conceptions of the world in which they reside clearly demarcates the boundaries of their health care practices. Traditional Hmong health care practices do not maintain treatment programs relating to automobile accidents or other first world, industrial ailments for they have no need. Their traditional ecological niche does not require it. Hmong etiology defines health care issues, not through constructions of the biological, but in relation to concepts of the natural and the supernatural.

Hmong healing practices are a unique result of several centuries of adaptation to the specific physical, biological, and social environments of Southeast Asia. All of these environments would change towards the end of the twentieth century.

Coming to America

Migration has long been a part of Hmong lifestyle. "Inextricably intertwined with the migrant identity of the Hmong," is the traditional Hmong practice of swidden agriculture (Fadiman 1997: 123; also noted by Ingram 1980: 17; O'Connor 1995: 80). Over the centuries groups of Hmong have continued to relocate as they encountered diverse forms of ecological strife. While there are still many Hmong living in China, a large group of Hmong emigrated from China around the middle of the nineteenth century, resettling in what are now the forested mountains of present day Vietnam, Laos, and Thailand (Fadiman 1997: 16-17; O'Connor 1995: 80). The major impetus for this most recent trans-Asian migration was rooted in the actions of the Manchu emperor, Ch'ien-ling, who in the late eighteenth century called for the extermination of Hmong people in China, a struggle which he ultimately lost (Fadiman 1997: 16).

Almost two centuries later, the Hmong would once again migrate to a new land, this time as refugees. Hmong began entering the United States soon after the fall of the Royal Lao Government 1975 (Bessac 1988: 1; Conquergood 1989: 42; Ingram 1980:21; Otake 1995:3). During the previous decade, the Hmong had become allied with the United States in the war against the North Vietnamese and the Pathet Lao (Ingram 1980: 20).

Early in the conflict, the United States recognized the strategic importance of Laos. And though the Geneva Accords of 1954 designated Laos as a neutral country after the break up of French Indochina, the United States manipulated the treaty by "supporting" the Hmong who were already fighting the Pathet Lao (Fadiman 1997: 124-126, Ingram 1980: 20). Organized by the CIA, in cooperation with Hmong leaders like General Vang Pao, Hmong soldiers fought where American troops could not. Shrouded in secrecy, this alliance would become known as the "quiet war" (Fadiman 1997: 131).¹⁰ The Hmong people would continue fighting the war against communism as United States allies until the fall of the Royal Lao Government in 1975. All in all over thirty-thousand Hmong would die during the conflict (Fadiman 1997; Ingram, 1980: 21; Otake, 1995: 3).

After the fall of the Royal Lao Government and the withdrawal of United States troops from Vietnam, the majority of Laotian Hmong fled to refugee camps in Thailand to escape the Hmong extermination campaign which had been inaugurated under Vietnamese rule (Ingram 1980: 21).

While the Hmong encountered Western influence during the war, It was in refugee camps like Ban Vinai that the Hmong people were truly given a taste of Western ideology. During

¹⁰ After the fall of the Royal Lao Government, General Vang Pao initially re-located in Missoula, Montana. Many of his followers, and their families, make up the Hmong population still residing in Missoula today.

their stay at the refugee camps the Hmong were exposed to biomedicine and Christianity as well as the ideological baggage that accompanied them. Wendy Walker-Moffat (cited in Fadiman 1997:35), who spent three years as a consultant in Ban Vinai, essentially re-affirmed the ideological continuum linking religion, medicine, and society when she stated, "They (the Christian volunteers) were to provide medical aid, but they were also there -though not overtly- to convert people,...And part of becoming converted was believing in Western medicine." While the converse is not as bounded, biomedicine is inherently constrained by underlying socio-cultural ideologies. While applicable to all forms of health care, Bastien (1996:4), focusing upon Western health care notes, "Although biomedicine has significant contributions to make, it is at a disadvantage when confronted with patients who do not associate it with their belief system." Throughout this thesis, the ideological boundaries which demarcate health care systems have been expressed. These staunch boundaries are well fortified by other cultural systems which form a community's ideological continuum, and breaking through them is no small task. But these boundaries are permeable, changing as a community's perceptions of their world change.

The refugee camps in Thailand may be viewed as a staging ground, an intermediate locus, where the Hmong were subject to new ideological constrictions as they regrouped to determine

their fate. Eventually, "Approximately half of the Hmong in Thailand's refugee centers chose to migrate to western countries rather than remain in the camps waiting for the day they might return to Laos" (Quincy, 1995: 218).

America: New Concepts, New Land

Upon arriving in America, Hmong refugees encountered and new ideological domain, bounded by concepts with which they were unfamiliar. The hazards experienced by new Hmong refugees ranged from being quite comical to being extremely grave. Quincy (1995: 219) notes some of the trials and tribulations the Hmong encountered stating, "Hmong unaccustomed to fishing licenses and hunting seasons were arrested for taking game illegally. Hmong foraging for mushrooms, and unfamiliar with American varieties, have nearly died from eating poisonous mushrooms." Such cultural misunderstandings only intensified when taken to encompass Hmong experiences with the American medical system.

Misconceptions about the nature of the other culture's health practices care permeated both American and Hmong points of view. Anne Fadiman (1997: 32-33) summarizes Hmong misconceptions of American health care in her depiction of Mao Thao's return to Ban Vinai. When Thao arrived back in Thailand after living in the United States for a year she was asked several questions, with an especially large number pertaining to American medical practices. "Is it forbidden to use a txiv neeb to heal an illness in the United States? Why do American

doctors take so much blood from their patients? After you die, why do American doctors try to open up your head and take out your brains? Do American doctors eat the livers, kidneys, and brains of Hmong patients? When Hmong people die in the United States, is it true that they are cut into pieces and put in tin cans and sold as food" (Fadiman: 1997: 32)?

Most members of American culture would find these questions to be quite amusing and rather trivial, for as members of this culture, it is fairly inconceivable that anyone would think about eating human organs or selling human remains as food. But it is not as easy to recognize when you lack the ideological basis.

To put it into perspective, Fadiman (1997: 6) notes that after child birth "Some Hmong women have asked the doctors at MCMC....if they could take their babies' placenta home. Several of the doctors have acquiesced, packing the placenta in plastic bags or take-out containers from the hospital cafeteria; most have refused, in some cases because they have assumed that the women planned to eat the placentas, and have found that idea disgusting, and in some cases because they have feared the possible spread of hepatitis B...."¹¹ If Western health care practitioners had known that the placenta are not consumed, but buried playing an integral role within

¹¹ MCMC refers to Merced County Medical Center in California.

Hmong cosmology and eschatology, their responses may have been different (Fadiman 1997: 5). In both instances, language barriers and ideological boundaries led members of both communities to presume that the other practiced some form of cannibalism.

The ideological differences and cultural misunderstandings between the Hmong and "American" culture were compounded by Hmong relocation into a distinctly different ecological niche. Tou Yang, a Hmong refugee living in Missoula, Montana, is quoted as stating "Everything is different....We never had snow in our country. The winter was not this cold" (Otake 1995: 2).

Not only was the climate different, but so were a myriad of other physical features which make up the American landscape. Instead of relatively small, high altitude forest villages, Hmong refugees in America were relocated into urban centers ranging in size from Missoula, Montana to Minneapolis, Minnesota. This new urban environment brought with it several new socio-biological stressors, including many industrial and technologically related ailments such as smog and automobile related accidents.

The stressors affecting the Hmong people residing in the United States were very different from those in Southeast Asia. Their entire ecosystem had been altered and the Hmong were altering their health care practices as they saw fit.

Human Adaptability in Process

Nothing happens in the visible field that does not stem from deep, invisible and unknown roots.

- Jacques May cited in Landy 1977: 129

Like all aspects of an ecosystem, as bounded as they may be, there is always room for adaptation. All cultures maintain a dual state of boundedness and permeability. And while, for this paper research was not performed in attempts to see if any Americans are currently adopting certain aspects of traditional Hmong health care, several articles have been written pertaining to Hmong use of Western, biomedical health care.

The number of Hmong refugees seeking health care from the American medical system is not static, shifting throughout the years for numerous reasons. In 1983 Westermeyer et. al. (p. 483) noted, "Relatively few people had sought treatment from a traditional healer since their arrival in the United States. Reasons for this varied, but two common responses were 'the right herbs are not here' and 'the spirits which guarded us and afflicted us (such as ancestor spirits) are back in Laos, not here.'" My own research with the Hmong in Missoula, Montana re-affirmed these notions. When asked about Hmong health care in the United States, a male member of the Yang clan responded that there was no Hmong medicine in the United

States (personal communication 5/97).¹² But this is just one perspective. Other Hmong strongly hold that traditional Hmong healing care practices are not only available in the United States, but are needed even more now.

There are a myriad of factors influencing Hmong use of biomedical health care in the United States. Many are related to social changes, such the conversion of some Hmong refugees to Christianity, and bio-physical changes such as exposure to new environmental hazards.

While individuals, like Quincy (1995: 222), looked upon Hmong use of biomedicine as reflecting a downward turn in the use of traditional Hmong healthcare stating, "Access to medical care has undermined Hmong shamanism. Hmong often still turn to a shaman when they are ill, but if the shaman fails to effect a cure, they do not hesitate to seek a physician." In fact Hmong use of biomedicine reflects their ability to adapt to a new eco-system while retaining their own cultural ideologies.

¹² While this individual stated that there was no Hmong medicine in America, I had met and spoke with a Hmong shaman in Missoula, Montana earlier in the year. I would later come to discover that Hmong shamanism is clan based, and since there were no Yang shaman's in America at the time, this individual perceived no Hmong medicine in the United States. Within the same family, when this man's wife became ill she traveled to Minneapolis-St. Paul, Minnesota where a shaman from her clan resided.

Note: "The clan is made up of a male ancestor, his sons and daughters, and the children of his sons" (Doa 1993: 23).

Having encountered Western health care practices to an extent in the refugee camps of Thailand, the Hmong use these experiences to gauge their use of biomedicine here in the United States. Referring to the Lee family, Fadiman (1997: 23) states, "Like most refugees, they had their doubts about the efficacy of Western medical techniques." But, due to the treatment of their children by western practitioners in Thailand, the Lee's continued use biomedicine in America. Fadiman (1997: 23) notes, "This experience did nothing to shake their faith in traditional Hmong beliefs about the causes and cures of illness, but it did convince them that on some occasions Western doctors could be of additional help, and that it would do no harm to hedge their bets."

Keeping the structure of traditional Hmong health care in mind, it is not very surprising then that Laotian Hmong refugees that have relocated in the United States have not become medically syncretic, but have adjusted to their previously existing health care system to account for a variety of new social and bio-physical requirements; using one or more healing system as needed to restore balance both in the body and, if needed, the souls it contains.

The realm of health care does not exist in a matrix of black and white, but of countless shades of grey. Medical pluralism reflects this continuum allowing individuals to utilize the health care practices needed to alleviate the ailments faced within a particular environment. Many Hmong

view biomedicine as being complimentary to their traditional health care practices, noting that both systems have their strengths. Fadiman (1997:100) quoting Noa Koa, a Hmong refugee she interviewed in Merced, California, states, "The doctors can fix some sickness that involve the body and blood, but for us Hmong, some people get sick because of their soul, so they need spiritual things." It is this ability to work between health care systems, to utilize the strengths of each, which epitomizes Hmong adaptability.

Chapter Five Towards an Understanding of Healing Practices

Once we have recognized that disease is naught else than the process of life under altered conditions, the concept of healing expands to imply the maintenance or re-establishment of the normal conditions of existence.

- Rudolph Virchow cited in Nuland 1988: 304

Recalling a statement from the first chapter, I once again stress that health care practices denote human best efforts to combat perceived environmental stressors. Over the millennia, human populations have created health and healing programs which not only reflect their particular world view, but also form to address the bio-physical stressors acting upon a community. Health care practices are as unique and numerous as the communities which formed them. The boundaries are definitive, yet also animate.

While healing practices are internally dynamic, culture contact has increased the rate of change relating to global health care needs and practices. With the increase of communication and transportation technologies the concept of a global community is taking new shape. Cultural and medical pluralism are abundant throughout the world. Among refugees residing in America have been exposed to a myriad of ideological choices, as well as varied amounts of bio-physical changes in their surroundings. But they have adapted, altering their previous health care system to include biomedicine as

biomedicine as needed. The use of specific health care programs by the Hmong people varies according to their perceptions of ideological and biological stressors. This practice of medical pluralism is not contradictory, but truly complimentary.

Following from Virchow's premise, once we recognize that health care systems are nothing more than cultural processes responding to the variable components acting within and upon an ecosystem, then culture contact becomes a renewed locus of potential human adaptability.

While the specific etiology, treatment, and structure of health care may differ immensely from one community to the next, the goal of all healing practices is universal, to cure the ailment(s) affecting an individual or a community. And in this light, "all medical systems 'work' to one degree or another; if they did not heal they would not be tolerated by their societies" (Meade, Florin and Gesler 1988: 261).

Foster and Anderson (1978: 38-46) suggest four universal aspects of medical practices. First, "medical practices are integral parts of cultures", Mirroring and reifying the predominant world view of a community. Second, "Illness is culturally defined." What may be considered an illness or disease in one community may not be considered an abnormality in a different community.¹ Biomedicine, for example, defines

¹ A classic example of this distinction comes from the Mano people of Liberia. From a biomedical perspective, the majority of the community suffer from Yaws, a treponemal

illness on the basis of laboratory tests which locate and categorize any pathological anomalies found within the body. Third, "All medical [practices] have both preventative and curative sides." And finally, "medical [practices] have multiple functions." This thesis has endeavored to illuminate these underlying similarities, noting that health care systems are just punctuated structures along an ideological continuum.

Rooted in a community's surrounding environment and embellished by cultural ideology, health care practices are continually being reshaped through time responding to perceived ecological stressors. It is this dual nature of ideology, to be bounded and steadfast, yet permeable and alterable, which lies at the heart of adaptation. For as Lasker (quoted in McElroy 1992; 248) aptly recognizes, "Adaptation is the change by which organisms surmount the challenges to life."

disease which manifests itself as "granulomatous ulcers on the extremities" (Hensyl 1990: 1744). But culturally, the Mano do not view yaws as an illness. As Harley stated, the Mano view Yaws as say "Oh, that is not a sickness, everybody has that" (Harley cited in Foster and Anderson 1978: 41).

References

- Baer, Hans A; Singer, Merrill; and Susser, Ida
1997 Medical Anthropology and the World System: A
Critical Perspective. Westport, Connecticut: Bergin and
Garvey.
- Bastien, Joseph W.
1992 Drum and Stethoscope: Integrating Ethnomedicine and
Biomedicine in Bolivia. Salt Lake City: University of
Utah Press.
- Beck, Peggy V; Walters, Anna Lee; Francisco, Nia
1992 The Sacred: Ways of Knowledge, Sources of Life.
Tsaile, Arizona: Navajo Community College Press.
- Bennett, John W.
1976 The Ecological Transition: Cultural Anthropology and
Human Adaptation. New York: Pergamon Press.
- Bessac, Susanne L.
1988 Embroidered Hmong Story Cloths. University of
Montana Contributions to Anthropology: Number Nine.
Missoula. University of Montana.
- Bliatout, Bruce Thowpaou
1986 Guidelines for Mental Health Professionals to Help
Hmong Clients Seek Traditional Healing Treatment. In The
Hmong in Transition. Hendricks, Glenn L., Downing, Bruce
T., and Deinard, Amos S. editors; Center for Migration
Studies of New York Inc..
- Blumenthal, Mark
1995 New World Plants; New World Drugs. In Columbus and
the New World: Medical Implications, Settiane editor.
Providence, Rhode Island: Oceanside Press.
- Bourdieu, Pierre
1998 Outline of a Theory of Practice. Cambridge:
University Press.
- Brown, Peter J.
1986 Cultural and Genetic Adaptations to Malaria:
Problems of Comparison. Human Ecology 14: 311-332.
- Bynum, W.F.
1994 Science and the Practice of Medicine in the
Nineteenth Century. Cambridge: University Press.

- Carmichael, Ann and Ratzan, Richard; editors
1991 *Medicine: A Treasury of Art and Literature*. New York: Harkavy Publishing Service.
- Chagnon, Napolen
1983 *Yanomamö: The Fierce People*, Third Edition. Chicago: Holt, Rinehart and Winston, Inc.
- Clifford, James and Marcus, George E. editors
1986 *Writing Culture: The Poetics and Politics of Ethnography*. Berkley: University of California Press.
- Comaroff, Jean
1993 *The Diseased Heart of Africa: Medicine, Colonialism, and the Black Body*. In *Knowledge, Power, and Practice: The Anthropology of Medicine and Everyday Life*. Lindenbaum, Shirley and Lock, Margaret, editors. Berkley: University of California Press.
- Conquergood, Dwight
1989 *I am A Shaman: A Hmong Life Story with Ethnographic Commentary*. Southeast Asian Refugee Studies, Occasional Papers; Number Eight. University of Minnesota: Center for Urban and Regional Affairs.

1986 *Between Two Worlds: The Hmong Shaman in America*. Video. Northbrook, Illinois: Film Ideas.
- Doa, Yang (Jeanne Blake editor)
1993 *Hmong at the Turning Point*. Minneapolis: Worldbridge Associates, Ltd.
- Doyal, Lesley (with Imogen Pennell)
1979 *The Political Economy of Health*. Boston: South End Press.
- Drury, Nevill
1989 *The Elements of Shamanism*. Longmead, Shaftesbury, Dorset: Element Books Limited.
- Dunnigan, Timothy
1986 *Process of Identity Maintenance in Hmong Society*. In *The Hmong in Transition*. Hendricks, Glenn L., Downing, Bruce T., and Deinard, Amos S. editors; Center for Migration Studies of New York Inc..
- Eliade, Mircea
1987 *The Sacred and The Profane; The Nature of Religion: The Significance of Religious Myth, Symbolism, and Ritual Within Life and Culture*. New York: Harcourt Brace Jovanovich, Publishers.

- Evans-Pritchard, E.E.
1937 *Witchcraft, Oracles and Magic Among the Azande*.
Oxford: Clarendon Press.
- Foster and Anderson
1978 *Medical Anthropology*. New York: John Wiley and Sons.
- Garbarino, Merwyn S.
1977 *Sociocultural Theory in Anthropology: A Short History*. New York: Holt, Rinehart and Winston.
- Gregor, Thomas
1977 *Mehinaku: The Drama of Daily Life in a Brazilian Indian Village*. Chicago: University of Chicago Press.
- Haraway, Donna
1993 *The Biopolitics of Postmodern Bodies: Determinations of Self in Immune System Discourse*. In *Knowledge, Power, and Practice: The Anthropology of Medicine and Everyday Life*. Lindenbaum, Shirley and Lock, Margaret, editors. Berkley: University of California Press.
- Heggenhougen, H.K.
1980 *Bomohs, Doctors, and Sinsehs-Medial Pluralism in Malaysia*. *Social Science and Medicine*. 14B: 235-244.
- Hensyl, William R. editor
1990 *Stedman's Medical Dictionary*, 25th edition. Philadelphia: Williams and Wilkins Press.
- Hooten, Ernest
1937 *Apes, Men, and Morons*. New York: G.P. Putnam's Sons.
- Hrdlicka, Ales
1908 *Physiological and Medical Observations Among Indians of Southwestern United States and Northern Mexico*. Bulletin 34, Bureau of American Ethnology, 169.

1909 *Tuberculosis Among Certain Indian Tribes*. Bureau of American Ethnology.
- Ingram, Patricia M.
1980 *An Assessment of the Assimilation Variables on the LaoHmong Refugees in the Missoula, Montana High Schools*. Unpublished Master's Thesis. University of Montana.
- Keesing, Roger M.
1981 *Cultural Anthropology: A Contemporary Perspective*, Second edition. New York: Harcout Brace Jovanovich College Publishers.

- Landy, David; Editor
1977 *Culture, Disease, and Healing: Studies in Medical Anthropology*. New York: Macmillan Publishing Co., Inc.
- Lee, Gary Yia
1986 *Culture and Adaptation: Hmong Refugees in Australia*. In *The Hmong in Transition*. Hendricks, Glenn L., Downing, Bruce T., and Deinard, Amos S. editors; Center for Migration Studies of New York Inc..
- Lemoine, Jacques
1986 *Shamanism in the Context of Hmong Resettlement*. In *The Hmong in Transition*. Hendricks, Glenn L., Downing, Bruce T., and Deinard, Amos S. editors; Center for Migration Studies of New York Inc..
- Leslie, Charles M.
1977 *Pluralism and Integration in the Indian and Chinese Medical Systems*. In *Culture, Disease, and Healing: Studies in Medical Anthropology*. New York: Macmillan Publishing Co., Inc. David Landy editor.
- Manger, Lois N.
1992 *A History of Medicine*. New York: Marcel Dekker, Inc.
- Marcus, George E., and Fischer, Micheal J.
1986 *Anthropology as Cultural Critique: An Experimental Moment in the Human Sciences*. Chicago: University of Chicago Press.
- McElroy, Ann
1990 *Biocultural Models in Studies of Human Health and Adaptation*. *Medical Anthropology Quarterly*. 4 (3): 243-265.
- McElroy, Ann, and Townsend, Patricia K.
1996 *Medical Anthropology in Ecological Perspective*; third edition. Boulder, Colorado: Westview Press.
- Meade, Melinda S.; Florin John W.; and Gesler, William M.
1988 *Medical Geography*. New York: The Guilford Press.
- Minocha, Aneeta A.
1980 *Medical Pluralism and Health Services in India*. *Social Science and Medicine*. 14B: 217-233.
- Nelson, Harry; Jurman, Robert; and Kilgore, Lynn
1992 *Essentials of Physical Anthropology*. New York: West Publishing Company.

- Nuland, Sherwin B.
1988 *Doctors: The Biography of Medicine*. New York: Vintage Books.
- O'Connor, Bonnie Blair
1995 *Healing Traditions: Alternative Medicine and Health Professions*. University of Pennsylvania Press.
- Otake, Tomoko
1995 *Tradition and Transformation: A Profile of the Hmong Community in Missoula, Montana*. Unpublished Professional Paper. University of Montana.
- Payer, Lynn
1988 *Medicine and Culture: Variation of Treatment in the United States, England, West Germany, and France*. New York: H. Holt.
- Plotkin, Mark J.
1993 *Tales of a Shaman's Apprentice: An Ethnobotanist Searches for New Medicines in the Amazon Rain Forest*. New York: Penguin Books.
- Quincy, Keith
1995 *Hmong: History of a People*. Cheney: Eastern Washington University Press.
- Rhodes, Lorna.
1990 *Studying Biomedicine as a Cultural System*. In *Medical Anthropology: Contemporary Theory and Method*, Johnson and Sargent editors. New York: Praeger Press.
- Ripinsky-Naxon, Michael
1993 *The Nature of Shamanism: Substance and Function of a Religious Metaphor*. New York: State University of New York Press.
- Rivers, W.H.R.
1924 *Medicine, Magic and Religion*. New York: Harcourt, Brace & Company, Inc.
- Settipane, Guy A., M.D.
1995 *Introduction: Columbus: Medical Implications*. In *Columbus and the New World: Medical Implications*, Settipane editor. Providence, Rhode Island: Oceanside Publications, Inc.
- Singer, Merrill and Baer Hans
1995 *Critical Medical Anthropology*. New York: Baywood Publishing Company, Inc.

- Skelton, Randall R
1997 Adaptation [Online]. Available:
http://taylor.anthro.umd.edu/note/101/101_L03.htm
[September 24, 1998].
- Steegman, A.T.
1975 Human Adaptation to Cold. In *Physiological Anthropology*. Albert Damon, editor. New York: Oxford University Press.
- Thao, Xoua
1986 Hmong Perception of Illness and Traditional Ways of Healing. In *The Hmong in Transition*. Hendricks, Glenn L., Downing, Bruce T., and Deinard, Amos S. editors; Center for Migration Studies of New York Inc..
- Trinkaus, Erik
1994 Hard Times Among the Neanderthals. In *Physical Anthropology: Annual Editions 94/95*. Angeloni, Elvio; editor; Guilford, Connecticut: Duskin Publishing Group, Inc.
- Twumasi, Patrick A.
1990 Professionalisation: Traditional Medicine in Ghana. In *Disease Ecology and Health: Readings in Medical Geography*; Akhtar, Rais, and Verhasselt, Yola editors. Jaipur, India: Rawat Publications.
- Vogel, Virgil J.
1970 *American Indian Medicine*. Norman and London: University of Oklahoma Press.
- Wellin, Edward
1977 Theoretical Orientations in Medical Anthropology: Continuity and Change over the Past Half-Century. In *Culture, Disease, and Healing: Studies in Medical Anthropology*. New York: Macmillan Publishing Co., Inc. David Landy editor.
- WesterMeyer, Joseph; Tou Fu Yang, and Gaohli Lyfong
1983 *Hmong Refugees in Minnesota: Characteristics and Self Perceptions*. *Minnesota Medicine* 66 (July) 431-39.
- Wilcocks, Charles
1965 *Medical Advance, Public Health and Social Evolution*. New York: Pergamon Press.
- Yang, Mary
1996 Personal Communication.