AMERICAN INDIAN CULTURE AND RESEARCH JOURNAL 31:1 (2007) 121–139

BIBLIOGRAPHIC ESSAY

Southern California Indian Concepts of Illness and Healing from Antiquity to the Present

GEORGE F. LONGSTRETH

Southern California Indian concepts of illness and healing (the causality, prevention, and treatment of illness) have evolved over thousands of years. These concepts and spirituality were closely related, important components of the precontact Southern California Indian worldview, a well-covered topic in Michael Kearney's *World View* (1984). Indians' current beliefs and practices, including their endorsement of biomedical health care, have major effects on their lives today. The varied theoretical perspectives of medical anthropology lead to understanding the past and present influences on their concepts and practices, and the collaboration of applied anthropologists with biomedical practitioners is seen increasingly as crucial to optimizing their care.

This article summarizes written material on illness and healing concepts among Southern California Indians and related Northern Baja California tribes from the prehistoric era to the present, primarily for use by social science researchers and teachers. The article's secondary objective is to provide a background for public health workers and health care practitioners on important prehistorical, historical, and contemporary cultural features. The bibliographic comments begin with pertinent publications on the anthropology of medicine and are followed by archaeological and ethnographic

George F. Longstreth is a clinical professor of medicine at the University of California School of Medicine, San Diego, California, and a gastroenterologist at the Kaiser Permanente Medical Care Plan. He received an MA in anthropology from San Diego State University.

works and contemporary studies of importance in understanding the Indians' current health-related concepts and practices, which should be considered in organizing and providing their care. Although beliefs and practices are usually associated with geographical or tribal groupings, it is important to realize that there are important intragroup and intergroup variations in these cultural traits.

WORKS ON MEDICAL ANTHROPOLOGY

Medical anthropology is young compared with other anthropological disciplines, and it draws from diverse theoretical and investigational approaches. A background of terms and theory is useful. Horacio Fabrega's seminal article, "The Need for an Ethnomedical Science" (1975), called for study of the relationship among specific culture members' disease concepts, the organization of treatment, and individuals' interaction with therapy. George L. Engle argued for a holistic biopsychosocial paradigm to remedy the reductionist deficiencies of the traditional biomedical model in "The Need for a New Medical Model: A Challenge for Biomedicine" (1977). An early book by anthropologist-physician Arthur Kleinman, *Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry* (1980), acquaints biomedical practitioners with the practical usefulness of explanatory models of illness and treatment, illness meanings, and the cultural construction of illness. His work is important because it encourages biomedical practitioners to assess patients' cognitive models of their illnesses through specific questions, when necessary, as done by anthropologists involved in cultural investigation.

René Descartes expounded the dualism of body and mind, leading biomedical practitioners who followed to infer separate management of these two divisions' disorders. The term *sickness* covers disease and illness. Since the eighteenth century, *disease* has been a physician concept of biological or biochemical malfunction. In contrast, *illness* is a broader concept of a sick person's experience, which has social, psychological, and cultural components, as discussed by Leon Eisenberg in "Disease and Illness: Distinctions between Professional and Popular Ideas of Sickness" (1977). *Curing* applies to the successful treatment of a specific biological disease or injury (for example, eradicating an infection). This biomedical construct contrasts with *healing*, a broader concept that refers to the whole person and includes physical and spiritual elements. In a given cultural context, one of these concepts may predominate (for example, curing in biomedicine and healing in complementary or alternative medicine), or they may be combined. However, curing may depend on emotional status, and healing may be influenced by biological status, as discussed by Andrew Strathern and Pamela J. Stewart in *Curing and Healing: Medical Anthropology in Global Perspective* (1999). They pointed out that Western medicine might be more successful in some cultures if the concept of healing is accommodated.

Historical concepts of treatment efficacy also differ from those of the biomedical perspective. The modern medical community values measurable

proof of efficacy. The most respected method of proving efficacy is a controlled clinical trial of one modality versus another treatment or placebo that includes clear inclusion and exclusion criteria, random allocation of subjects to the groups, and "double-blinding" of patient subjects and researchers to the group assignment. Statistically significant differences in outcomes are required to demonstrate efficacy. In "The Efficacy of Traditional Medicine: Current Theoretical and Methodological Issues" (2000) James B. Waldram cited the historical American Indian medical system as having a broader concept of improvement or cure that included symbolic aspects of treatment. With this viewpoint, it is possible to be "healed" without being "cured." The perceptions and interpretations of the patients are more important than objectively documented change. This view values the placebo response, which is related to meanings associated with illness and healing. It constitutes a large part of efficacious, modern medical care, even though it is discounted by biomedical researchers who are only interested in the effect of the tested agent exceeding that of placebo factors. This conflict of historical and biomedical views of efficacy complicates the evaluation of non-Western medicine, such as that of American Indians, as discussed in the article by Sue Mason, Phillip Tovey, and Andrew F. Long, "Evaluating Complementary Medicine: Methodological Challenges of Randomized Controlled Trials" (2002). For example, there is no possible placebo for comparison with shaman dancing and singing.

Medical anthropological pioneer George M. Foster proposed two systems of illness causality in "Disease Etiologies in Non-Western Medical Systems" (1976). The personalistic system of illness explanation attributes illness to the effects of malevolent or punitive agents, such as sorcerers or ancestors. The sick person's misfortune is directed at him alone and for reasons that concern him alone (or at his kin for reasons that concern them or the community at large) and is part of a general explanation of all misfortune; accidental causality is not considered. Religion and magic are intimately tied to illness, and causality occurs on multiple levels (for example, what happened, who or what did it to the patient, and the reason it happened). Prevention requires a positive action, but avoiding the conditions that cause illness is complicated and exceeds a person's control. Although many people espouse this system, modern biomedicine explains illness with a naturalistic system that is based on impersonal, systemic terms in which equilibrium is lost, and illness is unrelated to other misfortune. It incriminates properties of the body and nonintentional aspects of causality. Religion and magic are largely unrelated to illness, and causality occurs on a single level. Prevention involves avoidance (for example, not smoking) more than positive action, and the patient can have responsibility for becoming ill. A combination of these systems is evident in some cultures.

Conceptually, people "embody" the lived experiences in their social and ecological environments. Embodiment can be viewed theoretically through the "mindful body" of Nancy Scheper-Hughes and Margaret M. Lock's often quoted article, "The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology" (1987). Integral to this view is the concept that the

mindful body is subject to three levels of analysis: (1) the individual body (lived self) as associated with the mind (in opposition to Cartesian separation of the mind and body), (2) the social body in which structuralist and symbolic manifestations or metaphors for social factors are "embodied" as illness, and (3) the body politic, a dynamic concept of societal control of the body. Illnesses as "embodied metaphors" was presented in Setha M. Low's "Embodied Metaphors: Nerves as Lived Experience," in *Embodiment and Experience: The Existential Ground of Culture and Self* (1994: 139–62), edited by Thomas J. Csordas. Nancy Krieger recently outlined key embodiment concepts in an article especially suited to nonspecialists, "Embodiment: A Conceptual Glossary for Epidemiology" (2005).

Functionalism, structuralism, ecological perspectives, interpretive/symbolic theory, and political economy have influenced theory building. These theories often have complementary roles in forming useful frameworks of understanding, depending on the problem at hand. To proponents of critical medical anthropology (CMA), the ultimate influences on illness are social, especially political and economic power differentials, not the proximate forces in the natural environment that are paramount to medical ecologists. Recently, these frameworks were well covered by Hans S. Baer, Merrill Singer, and Ida Susser in *Medical Anthropology and the World System* (2003: 31–54), and the relevance of CMA is exemplified by the brutality of "structural violence" through embodiment of social inequities in Paul Farmer's *Pathologies of Power: Health, Human Rights, and the New War on the Poor* (2003). Excellent earlier books that bridge social science and biomedicine were written by anthropologist-physician Robert Anderson, *Magic, Science, and Health: The Aims and Achievements of Medical Anthropology* (1996), and anthropologist-epidemiologist Robert A. Hahn, *Sickness and Healing: An Anthropological Perspective* (1995). Although there is some overlap of issues presented in the latter two books, Anderson introduced ethnographic methods (100–128), whereas Hahn devoted the second half of his book to an insightful discussion of biomedicine as a distinct culture, how its practitioners generate and accept knowledge and apply it to patients, and the limitations of biomedicine that can be addressed by anthropology (131–293). Elisa J. Sobo and Michael Seid further emphasized the "functional biomedical acculturation" that people of any culture must have to interact optimally with the ethnocentric biomedical system in "Cultural Issues in Health Services Delivery: What Kind of 'Competence' Is Needed, and from Whom?" (2003). Of additional value to nonbiomedical practitioners is Kathryn Montgomery's recent book, *How Doctors Think: Clinical Judgment and the Practice of Medicine* (2005), which dispels the popular impression that biomedicine is a science in the Newtonian sense; rather it is a practice based on judgment that often lacks scientific evidence. Laura Nader's fascinating edited volume, *Naked Science: Anthropological Inquiry into Boundaries, Power, and Knowledge* (1996) convincingly argued that indigenous systems of knowledge are legitimate science and that contemporary scientific principles can be arbitrary, temporary, bureaucratized, and politicized, notably with Charles Schwartz's contribution, "Political Structuring of the Institutions of Science" (148–59). Furthermore, Libbet Crandon-Malamud emphasized

the influences that traditional "nonscientific" beliefs and practices can exert on biomedical practice in *From the Fat of Our Souls: Social Change, Political Process, and Medical Pluralism in Bolivia* (1991). In a less academic style, Jack Weatherford's *Indian Givers—How the Indians of the Americas Transformed the World* (1988) discussed the widespread benefits of New World ethnoscience, including medicine (175–98).

Notably, stalwart advocacy of individual approaches is giving way to integrated frameworks, particularly the "biocultural synthesis" expounded in the book edited by Alan H. Goodman and Thomas L. Leatherman, *Building a New Biocultural Synthesis: Political-Economic Perspectives on Human Biology* (1998). This framework aptly leads to an understanding of the state of contemporary Southern California Indians' health and their concepts of illness and healing by taking into account biological (dietary, lifestyle, and genetic), socioeconomic (social services, family coherence, and biomedical care accessibility), ecological (water, sanitation, housing, and air quality), cultural (biomedical knowledge and beliefs, illness causation concepts, ethnobotanical practice, and use of traditional therapists), and historical (annihilation, forced assimilation, geographical and social marginalization, and oppression) influences. The rest of this article discusses works on these diverse influences, which have evolved since prehistoric times.

WORKS ON PREHISTORY TO ETHNOGRAPHIES

Analyses of stone assemblages (projectile and other chipped points, milling stones and handstones, mortars and pestles, and charmstones) and other archaeological approaches have shed light on a progression of prehistoric cultures in California. As discussed and illustrated in David S. Whitley's *The Art of the Shaman: Rock Art of California* (2000), much pecked and painted rock art from this period relates to shamanism. Shaman traditions characterize foraging societies and those that recognize personalistic illness-causality systems, such as historical Southern California Indian groups. Shamans are practitioners of magic, medicine, and religion, who mediate between ordinary people and supernatural entities. Representations of shaman visions, including transformation into animals traveling to the spirit world, are common and seem to Whitley to have been produced at the conclusion of vision quests. The historical belief of many Southern California Indians is that a shaman's supernatural power is received from spirit helpers, who are often animal tutelaries or guides, whom the shaman sees during vision quests. Shamans had a special relation with the spirit helper; the actions of the shaman and his helper are conceptually and linguistically connected. For example, shamans can transform themselves into the spirit-helper animal during rituals. The great versatility of shaman power to cause and cure illness was summarized in Lowell John Bean's edited volume, *California Indian Shamanism* (1992). Many years of work among Southern California Indians have contributed to his extensive knowledge and ability to recruit Indian contributors to the book. Expert contributions by Bean, "California Indian Shamanism and Folk Curing" (33–66), Ken Hedges, "Shamanistic Aspects

of California Rock Art" (67–88), and Florence Shipek, "The Shaman: Priest, Doctor, Scientist" (89–96) are especially informative.

"Power and Its Applications in Native California" (1975) is key to interpreting rock art. In this seminal article, Bean described California shamans as "boundary players of power," empowered to travel throughout the mythical upper, middle, and lower worlds of the universe. The upper world is seen as inhabited by powerful anthropomorphic beings and spirit beings with which humans could interact to their own benefit. People reside in the middle world, typically the center of the universe, and superordinary beings, which are usually malevolent and have distorted humanoid or animal features, live in the lower world. There were four assumptions about power: (1) power is sentient and the primary causative agent in the universe, (2) power is distributed differentially throughout the three realms of the universe and is possessed by "life" and anything with the will "to act," including seemingly inanimate things, (3) the universe is in a state of dynamic equilibrium in relation to power, and (4) man is the central figure in this interacting system of power holders.

A common historical Southern California illness-causality concept was that of a foreign object lodging in the body due to witchcraft. The practice of shamans restoring health by sucking out the object are supported by discoveries of steatite or schistose "sucking tubes," as described by Michael R. Polk in "Manufacture and Uses of Steatite Objects by the Digueño" (1972) and Dennis H. O'Neil in "A Shaman's 'Sucking Tube' from San Diego County, California" (1983).

Spanish missionaries in prolonged residence provided the first detailed ethnographic accounts of healing practices. Beginning with the founding of the San Diego Mission in 1769, Spanish missionaries provided demographic data on baptisms, births, and deaths. Some missionaries kept valuable records of what they observed despite the scornful attitude of Catholic priests toward indigenous culture. Father Geronimo Boscana, who served at the San Juan Capistrano Mission from 1814 to 1826, left the most detailed cultural observations of mission Indians. The translation by Alfred Robinson, extensively annotated by the linguist John P. Harrington, is *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Geronimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission of San Juan Capistrano Called the Acagchemem Tribe* (1976). It revealed Boscana's view of them as child-like and incapable of rational thinking yet described a variety of Indian approaches to illnesses. For example, sage, rosemary, and nettle plant were applied as a plaster to external lesions. Black rosin (chilicote seed) was burned and the smoke inhaled for abdominal pain, and painful body areas were whipped with nettles or treated by applying large ants. Cold-water baths were used for febrile disorders. Their methods were probably as effective as Spanish colonial medicine.

Excavated bones disclose evidence of disease predating contact, including iron-deficiency anemia, degenerative arthritis, osteomyelitis, and other infectious disorders. Debra L. Martin and Alan H. Goodman summarized precontact Indian disease in "Health Conditions before Columbus: Paleopathology of Native North Americans" (2002). For a description of how

a subsistence shift of the Chumash from big-game hunting to seed collecting, especially acorns, four to five thousand years ago was initially associated with starvation and the poorer nutrition of San Miguel Island residents than mainland Chumash, one should read Philip L. Walker's "Integrative Approaches to the Study of Ancient Health: An Example from the Santa Barbara Channel Area of Southern California" in Alejandro Pérez-Pérez's edited book, *Notes on Populational Significance of Paleopathological Conditions: Health, Illness and Death in the Past* (1996).

Compared with many other North American Indian groups, California Indians had a later population decline. The earliest arrival of Old World diseases in California, to which Indians had little resistance, is uncertain, but it could have come with annual trips by Spanish galleons between Manila and Acapulco from 1567 to 1815, with possible stops on the Southern California coast for fresh water. In the premission era, trade routes likely promoted extensive spread of disease throughout Southern California and Baja California, as described by W. Preston in "Serpent in Eden: Dispersal of Foreign Diseases into Pre-Mission California" (1996). The catastrophic impact of smallpox, measles, diphtheria, influenza, syphilis, and other diseases was further augmented by rape, forced concubinage, corporal punishment, arduous labor, nutritionally inadequate diets, and crowded and unsanitary living conditions at Spanish missions, which were established from the southern part of Baja California to Northern California. The rapid, severe demographic collapse in the mission period, substantiated by mission records, was described in detail by Sherburne F. Cook in *The Conflict between the California Indian and White Civilization* (1975) and in Rupert Costs and Jeanette Henry Costs's edited volume, *The Missions of California: A Legacy of Genocide* (1987). In addition, the book by Robert H. Jackson and Edward Castillo, *Indians, Franciscans, and Spanish Colonization: The Impact of the Mission System on California Indians* (1995) described the Indians' unsuccessful resistance efforts (73–86). Political, economic, and ecological factors interacted to decimate them. In the twentieth century, tuberculosis became common. For example, C. Hart Merriam's 1901 observation that the Luiseño death rate, especially from tuberculosis, exceeded the birth rate was included in "The Luiseño: Observations on Mission Indians" in an edited collection of his writings, *Studies of California Indians* (1955). He stated plaintively, "Many of the young men and women we saw were coughing sadly" (92). Although the California Indian population rebounded steeply in the last half of the twentieth century, in part due to improved living conditions and health care, most of the increase is attributable to migration from other states.

By the early 1900s, many historical cultures had collapsed, and early twentieth-century ethnographers, particularly those working with A. L. Kroeber, reported their findings on the remaining California Indians, especially by summarizing consultants' narratives. Because of previous population decimation, there were often few informants, sometimes only a single, elderly person. Therefore, the absence of cultural evidence is not necessarily equivalent to evidence of its absence. Comparison of descriptions is complicated by variation in data obtained and in the ethnographers' opinions of consultant knowledge and reliability.

Three of the Southern California tribes whose traditional illness concepts were best studied are the Cahuilla, Chumash, and Digueño (Kumeyaay). Lucille Hooper described the external application of herbs, including soaking the feet in an herbal solution for joint pain, in "The Cahuilla Indians" (1920). For snakebites, the wound was sucked, and a weed was ingested; the weed was also used prophylactically for protection before fighting a rattlesnake. Women heated a sand pit with hot stones, then reclined in it and were covered with sand as therapy for various maladies. Hooper reported that shamans tended not to show (131–293) sucked disease-objects to onlookers, in contrast to the findings of Philip Drucker in "Culture Element Distributions, V: Southern California" (1937). Shamans exercised preventive power by divining from animal messengers or falling stars when sickness or death was eminent and then organizing dances to prevent it. When Bean began his studies of the Cahuilla in the mid-twentieth century, persistence of their language and residency locale contributed to survival of their historical knowledge. The shamans were credited with curing illness with "ritual singing, chanting, dancing, sucking, and smoking, together with practical remedies such as herbs, sweating, prescribed rest, purgatives, massage, and the like," in *Mukat's People: The Cahuilla Indians of Southern California* (1972: 146).

John P. Harrington recited Chumash folkloristic narratives recorded between 1912 and 1922 in "Culture Element Distributions, XIX: Central California Coast" (1942), and stories relating to shamans are among the most common of those recorded by Thomas C. Blackburn in *December's Child: A Book of Chumash Oral Narratives* (1975). Philip L. Walker and Travis Hudson summarized Chumash illness and healing concepts from prehistoric times through the era of early ethnographers, including some who obtained data in the late nineteenth century in *Chumash Healing: Changing Health and Medical Practices in an American Indian Society* (1993). They described presumed shaman's equipment that included steatite and bone tubes, smoke doctors' steatite pipes, mortars and pestles for grinding tobacco and other plants, animal effigies (talismans), beads, pendants, and quartz crystals. Various titles existed for Chumash medical specialists (members of the 'antap cult) in the use of herbs, smoke, sucking, and external and internal use of ants (psychoactive effects are suspected to explain the effects of ant ingestion).

The Digueño, so named by the Spaniards after the San Diego Mission, comprised several subdivisions that later adopted the collective name *Kumeyaay*, as described by Ken Hedges in "Notes on the Kumeyaay: A Problem of Identification" (1975). Leslie Spier's "Southern Digueño Customs" (1923) stated that shaman consultants used few herbs, but they reported blowing or spitting on and rubbing patients. The Digueño burned hair clippings and nail parings to prevent shamans from using them to cause their owners to develop fatal insanity. Her nearly fifty years of befriending Southern California Indians and championing their legal rights support Florence C. Shipek's observations. She recorded the elder Delfino Cuero's account of a Kumeyaay belief that red ant bites could both prevent and cure illness in *Delfino Cuero: Her Autobiography, an Account of Her Last Years and Her Ethnobotanic Contributions* (1991); however, Cuero had tried this on herself and had felt sicker afterward. She also reported

that nobody could touch a snakebite victim but an old person and that the victim would worsen if a pregnant or menstruating woman approached him. After a bite from a snake or spider, the victim's garden might grow better, but the person could ruin somebody else's garden by entering it. When Cuero's son was hospitalized in San Diego, he reacted violently when a hospital nurse bathed him because he interpreted her actions as an unwanted sexual advance. The meaning the psychiatrists attached to his actions was schizophrenia, as nobody explained to them initially that his actions were normal for a Kumeyaay. Their mistake seems to have been related to the reductionist process of diagnosis in biomedicine.

The great importance of power in Southern California Indian cosmology, the etiological role attributed to foreign objects in the body, near annihilation of the Indians after European contact, and extensive ethnobotanical heritage were especially important influences on concepts of illness and healing before the early twentieth century.

CONTEMPORARY CONCEPTS

There are few published studies of contemporary California Indian concepts of illness and healing. Diane E. Weiner's dissertation, "Luiseño Theory and Practice of Chronic Illness Causation, Avoidance and Treatment" (1993a), addressed attitudes about diabetes and cancer. She studied the chronic disease concepts of Southern California Luiseño from three San Diego County reservations using epidemiological questionnaires, genagrams, and formal and informal interviews. Nine Luiseño people edited her dissertation, thus increasing its validity. She concluded that the Luiseño explanatory model of diabetes is that of a relatively new, uncontrollable, and often fatal disorder. Luiseños typically regard diabetes as a result of a deficiency of a crucial body element or an excess of a harmful element and cite the danger of food additives, which were not part of their historical diets. They believe that it can be transmitted biologically, socially, and/or by cultural means. Descriptions of diabetes (for example, "it is a killing thing") reinforce particular historical and ethnic connotations to her. Specifically, she hypothesized that their collective memory of oppression leads them to associate the disorder with genocide. They feel that their historical foods would be good for diabetes but lament poor access to them, which Weiner associated with the powerlessness historically inflicted by oppressors. The Luiseño traditionally exchanged food with one another. Distribution of hunted or collected foods is no longer common, but informal exchange mechanisms persist among extended families, friends, and other tribal members. She posited that augmentation of food exchange could increase empowerment, encourage them to integrate their concept of diabetes with the medical practitioners' biomedical model, and improve medical outcomes. In her article, "Interpreting Ideas about Diabetes, Genetics, and Inheritance" (108–33) in the collection edited by Clifford E. Trafzer and Diane Weiner, *Medicine Ways: Disease, Health, and Survival among Native Americans* (2001), Weiner emphasized the differing concepts of inheritance and genetics between the Indians and biomedical practitioners and

suggested that the Indians create a parallel, opposing knowledge in response to the authoritarian control of biomedicine.

Weiner also reported in "Health Beliefs about Cancer among the Luiseño Indians of California" (1993b) that current and former cancer patients share illness-causality theories that differ from those of Luiseños who have not had cancer. The cancer patients think their disease is due to genetic predilection and/or God's will. However, God does not necessarily cause cancer in their view; rather cancer can come from malevolent cosmological forces, such as another Luiseño's social transgression. In contrast, nonafflicted individuals believe cancer is caused by either (1) chemical pollutants in the air, water, and food or (2) prior biomedical treatments that have gone awry. They generally think that cancer cannot be prevented and is untreatable, and only a few women report that periodic breast and gynecological examinations are worthwhile preventive measures. However, many espouse Native illness prevention methods. Moreover, biomedical principles change and are also incompletely endorsed by many non-Indians.

Northern Baja and Southern California Indians are linked by language, culture, and history, and they should not be arbitrarily separated into US and Mexican Yuman groups, according to M. Wilken Robertson in "Una Separación Artificial: Grupos Yumanos de México y Estados Unidos" (1993). R. C. Owen detailed his observations among the Northern Baja California Paipai in his dissertation, "The Indians of Santa Catarina, Baja California Norte, Mexico: Concepts of Disease and Curing" (1962) and summarized some of them in "The Use of Plants and Non-Magical Techniques in Curing Illness among the Paipai, Santa Catarina, Baja California, Mexico" (1963). He described the activities of Mexican *espiritualistas* (magical healers), restrictive and prescriptive diets, and herbal therapy often used if shaman interventions failed.

Forty years later, Kathryn J. Fleuriet described her investigation of the Kumeyaay of San Antonio Necua and nearby villages in Northern Baja California in her dissertation, "An Anthropology of Health: The Relevance of Medical Anthropology to the Health and Health Care Needs of the Kumiai of San Antonio Necua and Their Indigenous Relatives, Baja California, Mexico" (2003a). These Indians are marginalized from mestizo society and severely impoverished. Because they tend to be assimilated less into the dominant surrounding society than are their US counterparts, some of their present concepts could mirror those that the California Kumeyaay have lost through acculturation. Her preliminary work in several villages revealed a similar mix of biomedical and nonbiomedical etiologic concepts for acute and chronic illnesses. Emotional etiologies only apply to chronic illness, and nonbiomedical concepts of acute illness causality are always combined with biomedical causes. People reported two folk (nonbiomedical or culture-bound) illnesses of Mexican origin: *susto* (soul loss due to fright) and *empacho* (intestinal obstruction, typically in children). A variety of biomedical and non-Western practitioners are consulted. Fleuriet did not find evidence of an historical supernatural etiology of witchcraft (for example, shaman-induced). Rather she found a milder mestizo form of supernatural power that can cause emotional states or folk illnesses. Thus she found few "indigenous"

concepts except for herbal usage, which was also a mestizo tradition. She attributed preference for biomedicine to perceptions of efficacy and prestige associated with mestizo culture and their maintenance of herbal therapy to poor access to biomedical care. Thus, some of these findings reflect Mexican acculturation and problems with access to care, and they do not necessarily apply directly to the US Kumeyaay.

The second phase of her research focused on the people of San Antonio Necua, relatively advanced economically compared to nearby villages but still impoverished, and the physicians who serve them. She found that many Necuans believe that severe emotional factors can cause hypertension, diabetes, and low/variable blood pressure; the latter is a common self-reported disorder without biomedical explanation. The term *folk illness* has been applied to these disorders, but use of this term is now criticized, as every culture contributes to the illnesses of its members. Necuans associate increasing illness rates with a nonindigenous lifestyle (for example, consumption of processed foods), and this concept is accompanied by a sense of obligatory assimilation. Importantly, they tend not to regard themselves as "sick" with diabetes until they have diabetes-associated symptoms, some of which occur because the disease is not properly treated. Therefore, Necuans often seek care later than their doctors prefer. These disparate illness concepts between patients and physicians cause the Mexican doctors to regard them as noncompliant and even ignorant for not seeking care sooner. Visits to biomedical health-care providers may not be regarded as opportunities to learn about their illnesses or how to prevent them. She also suggested that the common complaint of low/variable blood pressure is "a very useful idiom of distress for voices otherwise silent in Necua and Mexico, such as the poor and women" and suggested that sufferers are depressed (251). She published much of her dissertation findings on San Antonio Necua in the online article, "Health and Health Care Problems among the Kumiai of San Antonio Necua and Their Indigenous Relatives in Baja California: Reflections of Poverty, Marginality, and a History of Colonization" (2003).

George F. Longstreth extended this work by analyzing face-to-face interview data from 313 Northern Baja Indian women obtained by native *promotores* (health educators) in his thesis, "Baja California Indian Women's Concepts of Illness and Healing" (2006). He documented self-reported adult and childhood illnesses and the preferred and usual treatment for them. Many women reported low/variable blood pressure or past *empacho*, and the former disorder was related to depression symptoms. Depression is rarely diagnosed in this population with poor access to biomedical care.

Ethnobotany is extensively practiced by many Southern California and related Northern Baja California Indians. A monograph by Walker and Hudson (1993) includes Chumash ethnobotany. Delfina Cuero reported about seventy medicinal plants to Shipek (1991). Ruth F. Almstedt listed even more Kumeyaay botanical remedies along with their uses in "Digueño Curing Practices" (1977). Owen recorded Paipai herbal practice in his dissertation (1962) and article (1963). Leanne Hinton reported additional ethnobotanical data from a single Northern Baja village in "Notes on La

Huerta Diegueño Ethnobotany" (1975). Fleuriet listed herbal preparations currently used by the Northern Baja California Kumeyaay (2003a: 73–77). Longstreth's Northern Baja California respondents from Kumeyaay, Paipai, and Kiliwa groups use botanical therapy more often for childhood than adult illnesses and favor historical therapy alone and both modern and historical therapy for a higher proportion of childhood than adult illnesses (2006).

Seven of the ten most common botanicals now sold in the United States were originally used by American Indians. Interest in their potential value is increasing, and the review by Andrea T. Borchers, Carl L. Keen, Judy S. Stern, and M. Eric Gershwin, "Inflammation and Native American Medicine: The Role of Botanicals" (2000), summarized the relatively meager laboratory research on them, which has revealed that some have bioactive constituents that are effective in treating the disorders for which they were used originally. However, Judith Garrard, Susan Harms, Lynn E. Eberly, and Amy Matiak in "Variations in Product Choices of Frequently Purchased Herbs: *Caveat Emptor*" (2003) warned that these products are not standardized and regulated, so the consumer cannot know whether the product label accurately represents content.

Therefore, pluralistic blends or compartmentalizations of historical and contemporary models may be evident in some groups. The impact of an imposed political structure on the Luiseño and Kumeyaay, as viewed from the CMA theoretical framework, and perspectives on belief systems and the social construction of illness apply well to anthropologists' findings. They have identified important power-related issues that influence health care, matters that could relate to the role that power has played in the Luiseño and Kumeyaay worldview since antiquity, and their loss of power through oppression. Luiseño divergence from modern practitioners' perspectives and the lack of endorsement of preventive health care by both the Luiseño and Kumeyaay could stem from their traditional belief that the effects of malevolent power can only be averted by supernatural intervention, such as by a shaman. Also, both groups blamed disease on their nonhistorical diets, and they blamed some diseases on acculturation to the dominant society. Fleuriet thought that the Baja Kumeyaay disorder, low/variable blood pressure, is related to psychosocial distress, and Longstreth's quantitative findings support this view. Weiner's Luiseño consultants could have had analogous, uninvestigated factors underlying their nonbiomedical concepts of illness.

IMPLICATIONS FOR HEALTH CARE TODAY

The historical Southern California Indian worldview, especially the strong spirituality/power/medicine relationship; human integration with nature and other power sources; diffuse distribution and multipotential nature of power; personalistic system of illness explanation; ethnobotanical heritage; and shamans' access to supernatural power contrasts with biomedical concepts of illness and healing. These differences influence Indians' interaction with the relatively foreign, modern medical-care system. Specifically, Indians who espouse an historical affinity with nature and the spirit world and have concepts of illness causality at variance with biomedical models could be reluctant to

accept fully Western medicine, which characteristically ignores the spiritual aspects of health and focuses on scientific principles instead, as summarized by JudyAnn Bigby in her practitioner handbook, *Cross-Cultural Medicine* (2003: 105). The identification of past oppression with their health-care providers could further widen the disjunction between their traditional concepts and those of their caretakers. Joan E. Dodgson and Roxanne Struthers argued that marginalization associated with historical trauma, the additional effect of biculturalism on marginalization, and the complexity of the biomedical system adversely impact health-care delivery in "Indigenous Women's Voices: Marginalization and Health" (2005). Similarly, the anthropological investigations on Luiseño and Kumeyaay illness and healing concepts can be plausibly related to their particular cultural traditions and group histories contributing to marginalization.

Indian traditions underlie much of contemporary alternative and complementary medicine, which encompasses a wide variety of conceptual and therapeutic approaches. Therefore, the attractions of the latter practices may apply to optimizing Indian health care today. More than 40 percent of Americans report use of at least one of sixteen alternative therapies, especially for chronic conditions, according to David M. Eisenberg, Roger B. Davis, Susan L. Ettner, Scott Appel, Sonja Wilkey, Maria Van Rompay, and Ronald C. Kessler in "Trends in Alternative Medicine Use in the United States, 1990–1997" (1997). These approaches typically include more time with practitioners than many orthodox practitioners provide. They are oriented toward understanding, empowerment, and self-care and are seen by advocates as less dangerous than conventional medicine, according to Wayne B. Jonas in "Alternative Medicine—Learning from the Past, Examining the Present, Advancing to the Future" (1998). Notably, Jimmie C. Holland wrote in "Use of Alternative Medicine—A Marker for Distress?" (1999) that non-Indian women with breast cancer who seek alternative care have more mental distress than do other patients and that some of them believe that alternative approaches will relieve this better. Therefore, the stress of societal marginalization and economic deprivation among Southern California Indians could also motivate them toward historical paradigms.

Polygenetic factors contribute to the predisposition of American Indians to certain illnesses (for example, gallstones, diabetes, and obesity). The "thrifty gene" hypothesis of J. Neel, described in "Diabetes Mellitus: A 'Thrifty' Genotype Rendered Detrimental by 'Progress'?" (1962), posited that the intermittent, scarce food supply available to Paleo-Indians crossing the deglaciating Bering Strait land bridge (Beringia) during the last Great Ice Age about ten to twenty thousand years ago resulted in the natural selection of individuals who could store calories as fat. Martin C. Carey and Beverly Paigen recently published a scholarly anthropological-biomedical article on this topic, "Epidemiology of the American Indians' Burden and Its Likely Genetic Origins" (2002). The adverse effects of the modern diet evidence the importance of genetic factors. The hunter-gatherer diet comprises the dietary characteristics that are most effective in preventing cardiovascular disease, and a physically active lifestyle, which characterized hunter-gatherers, also reduces cardiovascular disease,

obesity, diabetes, hypertension, and other disorders to which their modern descendents are predisposed. Boyd S. Eaton, Marjorie Shostak, and Melvin Konner, "Stoneagers in the Fast Lane" (1988), and James H. O'Keefe Jr. and Loren Cordain, "Cardiovascular Disease Resulting from a Diet and Lifestyle at Odds with Our Paleolithic Genome: How to Become a 21st-Century Hunter-Gatherer" (2004), wrote informative articles on this important topic. Therefore, Southern California Indians might be healthier if they replaced at least some of their modern, calorie-dense foods with foraged foods and pursued a more physically active lifestyle. Their concept that illness is related to acculturation to a Euro-American diet could facilitate this change.

Empowerment, illness understanding, and preventive care among some Luiseño and Kumeyaay do not fully reflect the biomedical model. A combination of safe, historical forms of care with modern care should be promoted. Illness meaning is often neglected in Western health care, as discussed in the articles comprising Sean McHugh and T. Michael Vallis's edited volume, *Illness Behavior: A Multidisciplinary Model* (1985), particularly "Illness Meanings and Illness Behavior" by Arthur Kleinman (149–60). Joining historical and biomedical approaches could advance illness meaning, empower patients to seek preventive health care, deal with their problems more effectively, and improve treatment outcomes. Group educational approaches have particular potential. For example, storytelling has advanced the health education of California Indians, as described by Felicia Schanche Hodge, Anna Pasqua, Carol A. Marquez, and Betty Geishirt-Cantrell in "Utilizing Traditional Storytelling to Promote Wellness in American Indian Communities" (2002). Biomedical practitioners should recognize culture-specific illnesses, such as the Kumeyaay low/variable blood pressure, as legitimate manifestations of distress; some sufferers may have untreated depression. Lee M. Pachter explained the importance of awareness in "Culture and Clinical Care: Folk Illness Beliefs and Behaviors and Their Implications for Health Care Delivery" (1994).

Their historical concepts, the strengths of alternative and complementary therapy that they already endorse, effects of societal marginalization, genetic illness predisposition, potential benefits of resuming some aspects of the hunter-gatherer lifestyle, and group approaches should be considered in planning and delivering health care.

CONCLUSIONS

Various anthropological and biomedical approaches contribute to the investigation and interpretation of the long evolution of Southern California Indian concepts of illness and healing, especially the "biocultural synthesis" that includes biological, socioeconomic, ecological, cultural, and historical factors. Societal structural inequities are especially influential, as they are embodied as illness and challenging to remedy. Marked differences exist between present-day Indian concepts and biomedical principles of illness and healing, which could interfere with their biomedical care. The historical importance of power and the Indians' sense of disempowerment make local empowerment especially important. Safe historical Indian concepts should be combined appropriately

with modern care. Physical activity and eating habits displayed by many hunter-gatherers should be encouraged, but Southern California Indians may not adopt them more readily than the rest of the population. Preliminary information on the relation of culture-specific illness to emotional distress could be further investigated by comparing the psychological status of people who report low/variable blood pressure, for example, with people diagnosed with biomedical disorders. Research is needed on the efficacy of pluralistic models that combine modern medical and historical paradigms.

BOOKS ON MEDICAL ANTHROPOLOGY

Robert Anderson, *Magic, Science, and Health: The Aims and Achievements of Medical Anthropology* (Fort Worth, TX: Harcourt Brace College Publishers, 1996).

Hans S. Baer, Merrill Singer, and Ida Susser, *Medical Anthropology and the World System* (Westport, CT: Praeger, 2003).

JudyAnn Bigby, *Cross-Cultural Medicine* (Philadelphia: American College of Physicians, 2003).

Libbet Crandon-Malamud, *From the Fat of Our Souls: Social Change, Political Process, and Medical Pluralism in Bolivia* (Berkeley: University of California Press, 1991).

Thomas J. Csordas, ed., *Embodiment and Experience: The Existential Ground of Culture and Self* (Cambridge: Cambridge University Press, 1994).

Paul Farmer, *Pathologies of Power: Health, Human Rights, and the New War on the Poor* (Berkeley: University of California Press, 2003).

Alan H. Goodman and Thomas L. Leatherman, eds., *Building a New Biocultural Synthesis: Political-Economic Perspectives on Human Biology* (Ann Arbor: University of Michigan Press, 1998).

Robert A. Hahn, *Sickness and Healing: An Anthropological Perspective* (New Haven: Yale University Press, 1995).

Arthur Kleinman, *Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry* (Berkeley: University of California Press, 1980).

Sean McHugh and T. Michael Vallis, eds., *Illness Behavior: A Multidisciplinary Model* (New York: Plenum Press, 1985).

Kathryn Montgomery, *How Doctors Think: Clinical Judgment and the Practice of Medicine* (Oxford: Oxford University Press, 2005).

Laura Nader, ed., *Naked Science: Anthropological Inquiry into Boundaries, Power, and Knowledge* (New York: Routledge, 1996).

Andrew Strathern and Pamela J. Stewart, *Curing and Healing: Medical Anthropology in Global Perspective* (Durham, NC: Carolina Academic Press, 1999).

Jack Weatherford, *Indian Givers—How the Indians of the Americas Transformed the World* (New York: Fawcett Columbine, 1988).

BOOKS ON SOUTHERN CALIFORNIA INDIANS THAT COVER ILLNESS

Lowell John Bean, ed., *California Indian Shamanism* (Menlo Park, CA: Ballena Press,
1992).

———, *Mukat's People: The Cahuilla Indians of Southern California* (Berkeley: University of California Press, 1972).

Thomas C. Blackburn, *December's Child: A Book of Chumash Oral Narratives* (Berkeley: University of California Press, 1975).

Geronimo Boscana, *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Geronimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission of San Juan Capistrano Called the Acagchemem Tribe* (Banning, CA: Malki Museum Press, 1976).

Sherburne F. Cook, *The Conflict between the California Indian and White Civilization* (Berkeley: University of California Press, 1975).

Rupert Costs and Jeanette Henry Costs, eds., *The Missions of California: A Legacy of Genocide* (San Francisco: Indian Historian Press, 1987).

C. Hart Merriam, *Studies of California Indians* (Berkeley: University of California Press, 1955).

Robert H. Jackson and Edward Castillo, *Indians, Franciscans, and Spanish Colonization: The Impact of the Mission System on California Indians* (Albuquerque: University of New Mexico Press, 1995).

Michael Kearney, *World View* (Novato, CA: Chandler and Sharp Publishers, Inc., 1984).

Alejandro Pérez-Pérez, ed., *Notes on Populational Significance of Paleopathological Conditions: Health, Illness and Death in the Past* (Barcelona: Fundació Uriach, 1996).

Florence C. Shipek, *Delfino Cuero: Her Autobiography, an Account of Her Last Years and Her Ethnobotanic Contributions* (Menlo Park, CA: Ballena Press, 1991).

Clifford E. Trafzer and Diane Weiner, eds., *Medicine Ways: Disease, Health, and Survival among Native Americans* (Walnut Creek, CA: AltaMira Press, 2001).

Philip L. Walker and Travis Hudson, *Chumash Healing: Changing Health and Medical Practices in an American Indian Society* (Banning, CA: Malki Museum Press, 1993).

David S. Whitley, *The Art of the Shaman: Rock Art of California* (Salt Lake City: University of Utah Press, 2000).

ARTICLES AND OTHER SOURCES

Ruth F. Almstedt, "Digueño Curing Practices," *San Diego Museum Papers. No. 10* (San Diego: Museum of Man, 1977).

Lowell J. Bean, "Power and Its Applications in Native California," *Journal of California Anthropology* 2, no. 1 (Summer 1975): 25–33.

Andrea T. Borchers et al., "Inflammation and Native American Medicine: The Role of Botanicals," *American Journal of Clinical Nutrition* 72, no. 2 (August

2000): 339–47.
Martin C. Carey and Beverly Paigen, "Epidemiology of the American Indians' Burden and Its Likely Genetic Origins," *Hepatology* 36, no. 4 (October 2002): 781–91.
Joan E. Dodgson and Roxanne Struthers, "Indigenous Women's Voices: Marginalization and Health," *Journal of Transcultural Nursing* 16, no. 4 (October 2005).
Philip Drucker, "Culture Element Distributions, V: Southern California," *University of California Anthropological Records* 1, no. 1 (1937): 1–52.
Boyd S. Eaton, Marjorie Shostak, and Melvin Konner, "Stoneagers in the Fast Lane," *American Journal of Medicine* 84, no. 4 (April 1988): 739–49.
David M. Eisenberg et al., "Trends in Alternative Medicine Use in the United States, 1990–1997," *Journal of the American Medical Association* 280, no. 18 (11 November 1997): 1569–75.
Leon Eisenberg, "Disease and Illness: Distinctions between Professional and Popular Ideas of Sickness," *Culture, Medicine and Psychiatry* 1, no. 1 (April 1977): 9–23.
George L. Engel, "The Need for a New Medical Model: A Challenge for Biomedicine," *Science* 196, no. 4286 (8 April 1977): 129–36.
Horacio Fabrega Jr., "The Need for an Ethnomedical Science," *Science* 189, no. 4207 (19 September 1975): 969–75.
Kathryn J. Fleuriet, "An Anthropology of Health: The Relevance of Medical Anthropology to the Health and Health Care Needs of the Kumiai of San Antonio Necua and Their Indigenous Relatives, Baja California, Mexico" (PhD diss., Stanford University, Palo Alto, CA, 2003a).
———, "Health and Health Care Problems among the Kumiai of San Antonio Necua and Their Indigenous Relatives in Baja California: Reflections of Poverty, Marginality, and a History of Colonization," *California Journal of Health Promotion* 1, no. 1 (2003b): 140–57.
George M. Foster, "Disease Etiologies in Non-Western Medical Systems," *American Anthropologist* 78, no. 4 (December 1976): 773–82.
Judith Garrard et al., "Variations in Product Choices of Frequently Purchased Herbs: *Caveat Emptor,*" *Archives of Internal Medicine* 163, no. 19 (27 October 2003): 2290–95.
John P. Harrington, "Culture Element Distributions, XIX: Central California Coast," *University of California Anthropological Records* 7, no. 1 (1942): 1–46.
Ken Hedges, "Notes on the Kumeyaay: A Problem of Identification," *Journal of California Anthropology* 2, no. 1 (1975): 71–83.
Leanne Hinton, "Notes on La Huerta Diegueño Ethnobotany," *Journal of California Anthropology* 2, no. 2 (Winter 1975): 214–22.
Felicia Schanche Hodge et al., "Utilizing Traditional Storytelling to Promote Wellness in American Indian Communities," *Journal of Transcultural Nursing* 13, no. 1 (January 2002): 6–11.
Jimmie C. Holland, "Use of Alternative Medicine—A Marker for Distress?" *New England Journal of Medicine* 340, no. 22 (3 June 1999): 1758–59.
Lucille Hooper, "The Cahuilla Indians," *University of California Publications in American Archaeology and Ethnology* 16, no. 6 (10 April 1920): 316–80.

Wayne B. Jonas, "Alternative Medicine—Learning from the Past, Examining the Present, Advancing to the Future," *Journal of the American Medical Association* 280, no. 18 (11 November 1998): 1616–19.

Nancy Krieger, "Embodiment: A Conceptual Glossary for Epidemiology," *Journal of Epidemiology and Community Health* 59, no. 5 (Fall 2005): 350–55.

George F. Longstreth, "Baja California Indian Women's Concepts of Illness and Healing" (MA thesis, San Diego State University, San Diego, 2006).

Debra L. Martin and Alan H. Goodman, "Health Conditions before Columbus: Paleopathology of Native North Americans," *Western Journal of Medicine* 176, no. 1 (January 2002): 65–68.

Sue Mason, Phillip Tovey, and Andrew F. Long, "Evaluating Complementary Medicine: Methodological Challenges of Randomized Controlled Trials," *British Medical Journal* 325, no. 7368 (12 October 2002): 832–34.

J. Neel, "Diabetes Mellitus: A 'Thrifty' Genotype Rendered Detrimental by 'Progress'?" *American Journal of Human Genetics* 14, no. 4 (December 1962): 353–62.

James H. O'Keefe Jr. and Loren Cordain, "Cardiovascular Disease Resulting from a Diet and Lifestyle at Odds with Our Paleolithic Genome: How to Become a 21st-Century Hunter-Gatherer," *Mayo Clinic Proceedings* 79, no. 1 (January 2004): 101–8.

Dennis H. O'Neil, "A Shaman's 'Sucking Tube' from San Diego County, California," *The Journal of California and Great Basin Archaeology* 5, no. 1 and 2 (Summer and Winter 1983): 245–47.

R. C. Owen, "The Use of Plants and Non-Magical Techniques in Curing Illness among the Paipai, Santa Catarina, Baja California, Mexico," *América Indígena* 23, no. 4 (October 1963): 319–44.

———, "The Indians of Santa Catarina, Baja California Norte, Mexico: Concepts of Disease and Curing" (PhD diss., University of California, Los Angeles, 1962).

Lee M. Pachter, "Culture and Clinical Care: Folk Illness Beliefs and Behaviors and Their Implications for Health Care Delivery," *Journal of the American Medical Association* 271, no. 9 (2 March 1994): 690–94.

Michael R. Polk, "Manufacture and Uses of Steatite Objects by the Digueño," *Pacific Coast Archaeological Society Quarterly* 8, no. 3 (July 1972): 1–26.

W. Preston, "Serpent in Eden: Dispersal of Foreign Diseases into Pre-Mission California," *Journal of California and Great Basin Anthropology* 18, no. 1 (1996): 2–37.

Nancy Scheper-Hughes and Margaret M. Lock, "The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology," *Medical Anthropology Quarterly* 1, no. 1 (March 1987): 6–41.

Elisa J. Sobo and Michael Seid, "Cultural Issues in Health Services Delivery: What Kind of 'Competence' Is Needed, and from Whom?" *Annals of Behavioral Science and Medical Education* 9, no. 2 (Fall 2003): 97–100.

Leslie Spier, "Southern Digueño Customs," *University of California Publications in American Archaeology and Ethnology* 20, no. 16 (1923): 295–358.

James B. Waldram, "The Efficacy of Traditional Medicine: Current Theoretical

and Methodological Issues," *Medical Anthropology Quarterly* 14, no. 4 (December 2000): 603–25.

Diane E. Weiner, "Luiseño Theory and Practice of Chronic Illness Causation, Avoidance and Treatment" (PhD diss., University of California, Los Angeles, 1993a).

———, "Health Beliefs about Cancer among the Luiseño Indians of California," *Alaska Medicine* 35, no. 4 (October–December 1993b): 285–96.

M. Wilken Robertson, "Una Separación Artificial: Grupos Yumanos de México y Estados Unidos," *Estudios Fronterizos* 31–32 (May/August, September/December 1993): 135–39.