

Book Reviews

Responses to Sickness

Social Anthropology and Medicine. Papers from a conference, Canterbury, England, April 1972. J. B. LOUDON, Ed. Academic Press, New York, 1976. xxvi, 600 pp. \$15.25. A.S.A. Monograph 13.

Health and disease are central adaptive concerns of all human societies, but until recent decades most anthropologists, in England no less than in Europe and the United States, have been interested in these phenomena only peripherally. From the beginning, however, some British anthropologists (Tylor and Frazer, *inter alios*) interested themselves in religiomedical aspects of culture and social structure, and some who came into the field as physicians (Rivers, Seligman, McDougall, Myers) made contributions to the study of ethnomedicine as well as of social structure. Now increasing numbers of ethnologists on both sides of the Atlantic have moved their viewing lenses in this direction. This book, based on a symposium of the Association of Social Anthropologists, offers a sturdy platform from which the British have now "officially" launched themselves into the heady space of medical anthropology. Maintaining the earlier trend, five of the 15 participants are physicians.

The conference convener, Meyer Fortes, urges a "refocussing . . . on the human actor as such, rather than on abstract problems of, for example, role and status or the apparatus of custom at the disposal of the actor." Thus, patients and healers would be viewed as humans caught in the pain and vulnerability of illness, attempting to meliorate suffering not as robotic slaves of rule and tradition but as individuals pondering, weighing, and choosing among possibilities. While not unknown, such an ethnological perspective is surprisingly rare; that most contributors to this collection to some degree responded successfully to Fortes's call makes the book a valuable addition to ethnomedical literature.

The writers were asked to orient their reports around indigenous concepts of health and of what constitutes departures therefrom (structures and functions of the body; physiological processes such as conception, birth, growth, matu-

ration, senescence, and death; comparability of local notions with those of Western biology); ideas of etiology and pathology (disease as a consequence of contagion, pollution, sin, or environmental or human assault); and concepts of disease as distinguished from concepts of illness (presumably the former more biological, the latter more social and psychological). While the expectation that common concern with these questions would result in greater cross-cultural comparability was not borne out by precisely similar findings, useful and even unique material and stimulating theoretical suggestions did emerge. A few examples follow.

Among the Gnaou of New Guinea the sick person withdraws from all activity, begrimes himself or herself with dirt and ashes, speaks in a quavering voice, strips off all attire, desists from conversation and most foods. The functions of these actions are to impress the community with the gravity of the difficulty, to communicate a plea for commiseration and aid, and to discourage spiritual attack. Sickness behavior has the elements of a rite of passage (separation, marginality, aggregation), forcing the victim through a crisis determined by nature, rendering him or her vulnerable to physical, psychological, and social suffering and dependency, and requiring withdrawal from normal obligations and the undertaking of rituals to fend off pain and the threat of death. But the purpose differs from that of rites of passage for birth, puberty, marriage, and death or of the cults of affliction among the Ndembu or American Indian medicine societies in that the sick person hopes to return to his former status, not advance to a new one.

Who are the individuals or classes of persons most likely to become ill in a society? In a group of non-Muslim Hausa peasants women and children were ill far more frequently than men, exclusive of the complications of pregnancy and childbirth. Reasons for the sexual differential in disease rates are not specified, but it is perhaps significant that, whereas technical healers are men, spiritual healers are women. Though influenced by nearby Islamists, most women reject Islam as not meeting their needs, adhering to their traditional religion and

medicine. A preponderance of females among the ill is not found in records of the health ministry and could easily be overlooked by male anthropologists. Sick behavior here is epitomized by women's illness, but is usually less accessible for observation by male anthropologists. Except for venereal disease moral culpability is not attached to illness. Neither is the curer blamed who fails to cure, but payment is not made unless a cure has been effected.

Anthropologists who no longer doubt the internal logical consistency of non-Western religiomedical systems nevertheless may feel such societies do not possess the requisite information to make rational decisions about medical strategies. But the Yoruba of Nigeria, we learn, are making just such choices, assessing with surprising accuracy the capabilities and limitations of Western scientific medicine. In surgical and obstetrical crises, when indigenous healers are obviously baffled, Yoruba patients willingly use hospitals and surgeons. But a virus-caused jaundice for which there is no specific in Western medicine is not brought to Western doctors. Similarly epilepsy, though reduced in severity through regular sedation, has no known cure, and although it frightens victims and relatives it is not often brought to the Western physician, nor are most manifestations of "mental" illness. Gould's notion of folk pragmatism to describe the medical decisions of villagers in northern India applies equally among the Yoruba. Universally it may be assumed that illness is first of all a private and a family matter and treatment most often begins in the home. If the patient's condition then worsens the selection of alternatives among healing possibilities is not made as a blind instrumentation of traditional imperatives but as a practical choice among available therapies, indigenous or imported.

Victor Turner's analysis of symbolism in Ndembu healing rites, more particularly his finely detailed inquiry into color symbolism, finds an echo in this book in a study of Zulu medicine by a Zulu anthropologist. While not extended beyond the ritual context (for example, to skin complexion), color plays a critically expressive role in Zulu rites. Black includes not only black but all dark hues. Red includes purple, mauve, light brown, and pink. White stands for all light hues. Black and red represent both power and evil and are counterpoised to white, which stands for goodness and light. Strict sequences of colors of medicines and other objects are followed in healing rituals. Thus black medicine will

give the patient strength to expel whatever is causing his disease, but to achieve positive health he must also then take white medicaments. Disease or other misfortune caused by sorcery requires the suffocation of a black sheep. A black decoction must be prepared and drunk by all members of the victim's family, then vomited on the sheep; this is repeated for three days, after which the black sheep is buried and a white goat is killed. The family then drink and vomit white medicines for three days, during which flesh of the white goat is eaten and health is restored to the lineage member. In urban areas chickens may be substituted. The various color meanings are too numerous to spell out here, but they clearly design the ceremonies and symbolize their psychological and social significances.

Threaded through all these papers are some refreshing antidotes to the rigidly stereotyped molds into which anthropologists no less than lay writers have all too frequently poured the medical systems of preindustrial peoples. Persons who become seriously ill, as well as relevant others, tend to vary greatly in responding to their misfortune. They may first attempt to deal with the illness themselves, heed the advice of friends and kinsmen, or bear with it until the malady remits. If they consult a diviner they may not accept his or her verdict but often feel free to consult one or more others (provided they possess the wherewithal). Even after accepting the diagnosis they will not necessarily feel compelled to seek the recommended treatment, or they may decide to combine therapies from several healers. Healers and diviners not only compete with each other for the trust and patronage of their clients but differ greatly in their ideas of the nature of disease and the type of treatment needed, and there may be much variability within types of treatments as to methods and substances used. Of course, clients and healers share a core of beliefs without which the medical system could not function, but it is not unusual to find popular theories of sickness differing from those of the elite, and in particular of the professional healers, as Willis and Barnes have shown, no less in non-Western and preindustrial cultures than in Western systems. While these discoveries support Fortes's caution against the notion of the sick person or healer behaving as a serf to custom, they do not obviate studies of the status and role of patient and healer. These may not produce data as rich in human detail as the present studies, but, contra Fortes, they will be needed to bring

about reliable transcultural comparisons.

Although the decision of the publisher to reproduce the book in double-spaced typescript doubles its size and diminishes its attractiveness, its contents measure up to the high standards set by earlier A.S.A. monographs, and it will be welcomed by medical anthropologists at home and abroad.

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History of a Machine

Europe's Giant Accelerator. The Story of the CERN 400 GeV Proton Synchrotron. MAURICE GOLDSMITH and EDWIN SHAW. Taylor and Francis, London, 1977. x, 262 pp., illus. £13.

This is a description of the construction of the CERN SPS—the Super Proton Synchrotron, completed in 1976—and of the men who built it and the problems they faced and overcame in doing the job. It is a lavishly produced book, with many photographs, some in color, and diagrams. It is intended not for the physicist but for the general public. Written by two experienced science writers, one of whom is head of the CERN Public Information Office, the book irresistibly reminds one of the lavish annuals that the graduating classes of American high schools and colleges used to produce (do they still print them?), faithfully chronicling the doings of the class in photographs and slightly purple, arch prose. Just as all other schools were ignored in such annuals, the Fermilab accelerator, completed five years earlier at less than half the cost, is barely mentioned in the SPS chronicle, as if its mention were in questionable taste; it does not appear in the index.

Clearly, in such a book it would be idle to expect an evaluation of the project in terms of what was new and what borrowed, which design features are elegant and which uninspired. One can expect an adequate account of the circumstances of construction, and that expectation is met. The SPS had a particularly difficult birth. Its existence was despaired of at several junctures, and its survival was the result of inspired political action on the part of the scientists concerned, particularly J. B. Adams, who proposed that the cost of the accelerator be cut in half and that it be built at CERN. The story is here in all the particulars that have been public knowledge; whatever may have

gone on behind the scenes is still wrapped in obscurity. And it is a story well worth telling.

The public are certainly entitled to such a description; they have paid enough for it. It is indeed rather a shame that all major accelerators have not been so chronicled. Most of them are major engineering achievements, and many of them are scientific ones as well. The agencies that fund such projects insist on proper scientific documentation of the construction, and they might be well advised to require documentation for the general public as well. Simple self-interest likewise prompts such a course; too much nonsense about science is fed to the public.

Among the inevitable errors that seem to survive the most careful proofreading only one seems worth mentioning. Perhaps significantly, it involves Americans; Robert Hofstadter is misidentified as M. Goldhaber on page 33.

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Synaptic Function

Chemical Pharmacology of the Synapse. D. J. TRIGGLE and C. R. TRIGGLE. Academic Press, New York, 1976. x, 654 pp., illus. \$43.75.

Much of the excitement in the study of neurotransmitter receptors during the past few years has centered on attempts to purify and characterize the nicotinic receptor. These efforts have been greatly aided by the availability of a radioactive ligand, α -bungarotoxin, that binds, essentially irreversibly, to this receptor and by the availability of a tissue—the electric tissue found in a group of electric fish and eels—that contains an unusually large concentration of these receptors. (The concentration of nicotinic receptor sites in the electric tissue of *Torpedo marmorata* is about 250 times that found in mammalian skeletal muscle.) More recently, however, with the availability of radioactive agonists and antagonists for a variety of receptors, studies have been initiated on nicotinic, muscarinic, β -adrenergic, dopaminergic, and glycinergic receptors (to name just a few) in many different tissues, including small regions of the central nervous system. In addition to increased knowledge concerning the binding of radioactive ligands to receptors, there has been much progress in characterizing the early responses of