## **Hunter-Gatherers in Africa**

The !Kung San. Men, Women, and Work in a Foraging Society. RICHARD BORSHAY LEE. Cambridge University Press, New York, 1979. xxvi, 526 pp., illus. Cloth, \$34.95; paper, \$10.95.

The !Kung San, who are part of a group sometimes referred to as the Bushmen of southern Africa, feature in innumerable writings on hunter-gatherers. They assumed considerable importance with the appearance in 1968 of Man the Hunter (1), coedited by the man responsible for orchestrating the extensive research program on their lives and behavior, Richard B. Lee. Here Lee, by pointing to the elegance and economy with which the Dobe San lived and prospered in a semiarid environment, challenged a long-held view of foragers as miserable, hard-working savages eking out a living on the edge of existence. For the next decade, scholars converged on the San, documenting their lives in a series of studies that did not merely record the minutiae of life, but focused on wider issues, relating demography to nutrition, food to health, physique to hunting, and cooperation to childrearing. Many of the members of the Harvard Kalahari Research Group published their findings in another volume coedited by Lee, Kalahari Hunter-Gatherers (2), and detailed studies of demography and archeology have also appeared (3). Until now, however, there has been no single integrative synthesis of San life. This is what The !Kung San represents.

The book is based on Lee's own involvement with the San over the past 20 years, including three long field trips between 1963 and 1973, as well as on work done by scores of collaborators. In concept and execution it is a model of clarity, beginning with a personal history that traces the parallel growth of Lee's awareness of himself as a stranger and the !Kungs' perception of him as an adult friend. His closeness and empathy emerge repeatedly, in chapters detailing land, history, food, work, numbers, births, death, trances, law, and authority, where facts, figures, tables, and maps are embellished with case histories and dialogues that invest the subjects with hopes, laughter, and tears. Luminous photographs illustrate aspects of daily life—cooking, picking berries, readying for a hunt—but convey more than the mundane routines, betraying the spirit behind the swaying bodies of two wrinkled women locked in a trance state (p. 448) or the passion beneath the lidded eyes of a sad song singer (p. 459).

Much of the information in the book has appeared before in the vast corpus of writings on the San, but, although the cognoscenti might recognize a familiar sentence or even page. Lee integrates the work so skillfully that it remains lively, provocative, and refreshing. For instance, there is a dissection of the vexed issue of leadership and landowning, where Lee explains why his findings differ from those made by earlier workers. With restraint and elegance he points out how informants were misunderstood and buttresses his conclusion by arguing that an authoritarian social structure would prevent foragers from making the best use of their social and economic resources. In another instance he skillfully integrates a comprehensive body of data to see whether the stress imposed by seasonal fluctuations of food resources affects fertility. Judging his particular results inconclusive on this subject, he dismisses perhaps too swiftly the more persuasive findings of Wilmsen and turns deftly to suggest that the close motherchild relationship found among the San affects fertility, in that prolonged suckling of the child inhibits the mothers' swift post-partum return to hormonal normality. And finally, a special word for the chapter on conflict, where anecdotes about homicide, with an escalating series of encounters reflecting a mix of blood and guts, intrigue and abuse, garnished with sexual cringe and swagger, dispel the notion of the San as a timeless, peaceful people.

Clearly then *The !Kung San* stands firmly in the forefront of basic anthropological treatises. I wish I could end on this laudatory note, but an aspect of the work disturbs me. Intrinsic to this, as to most other writings on the !Kung, is the notion that their cultural integrity as hunter-gatherers is proven and enhanced by the fact that they have used the tracts they occupy today for millennia and that

the accoutrements of pastoralism, including iron, crops, cattle, sheep, and goats, appeared only recently in that area and were only incorporated in San life over the past 100 years. As Lee puts it, "Foraging people have been operating in the Dobe area for thousands of years without any evidence for major discontinuities. Personnel have changed, but the way of life has remained the same" (p. 438).

Lee backs up this assertion with archeological evidence to show human occupation going back 11,000 years in the Dobe area and a continuous accumulation of debris from Late Stone Age to modern times at /Xai /Xai (p. 76). His claim about the first appearance of pastoralists rests on historical writings as well as testimony of informants. Thus Lee and others assume that the basic social identity of the San reflects the true longlived forager mode, overlain in part by modern accretions but underneath representing what all humans were originally like. Though Lee specifically denies using a simplistic evolutionary framework (pp. 1-2, 432), his deep-rooted belief in the nature of San identity emerges repeatedly, as for example when he tries to reconcile the Marxist and uniformitarian outlooks by concluding that San sharing epitomizes the lives of foragers and thus lends credence to the theory "that a stage of primitive communism prevailed before the rise of the state and the breakup of society into classes" (p. 460).

A review of southern African historical and archeological sources reveals repeated overlaps of those time-honored categories of hunter and herder, forager and farmer, and "Bushman" and "Hottentot," suggesting that people like the present-day San survive by being flexible opportunists whose environment allows or demands that they plug into one or another system at various times, depending on a complex array of circumstances (4). The situation observed by Lee at /Du/da aptly illustrates this point. When observed, the San there were so isolated that they provided "some of the best data we have on a full-time foraging ecology unaffected by the presence of cattle pastoralism" (p. 73). Yet the fact that most of these people came to /Du/da from European farms (pp. 73-76) suggests strongly that their very existence is an outcome of prolonged contact with farmers. Moreover, although Lee was correct at the time of writing that there was no direct evidence of prehistoric herders at Dobe, archeological remains from Namibia and South Africa suggest a widespread distribution of sheep and herders 1500 to 2000 years ago (4,5) and

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the recent excavation of an Iron Age settlement some 120 miles from Dobe puts pastoralists in easy reach for at least the past 1000 years (6).

Thus, whereas Lee is inclined to concentrate on a particularistic view of !Kung existence, the broader perspective suggested by the findings outlined above replaces his evolutionist sense of the !Kung struggling across a threshold of farming and herding (p. 116) or poised on the brink of the "Neolithic Great Leap Forward" into settled life (p. 432) with an image of them dancing between two "modes," nimble opportunists in the wider African world.

This brings us to a rather subtle implication of the view of San as persistent foragers in that that view may be seen to have rendered them somewhat less than what they really are. Emerging more as ideal than real people, they appear anachronistic in the sociopolitical theater of modern Africa. Lee's impression of the San as unwitting innocents lured into the service of cruel and ruthless Boers (p. 431) has a paternalistic cast if only because all other signs identify this alliance as one of many such opportunistic strategies that have apparently served the San well in the past. "Innocent victim" is a mere hairsbreadth from "noble savage," and given the pressures that are being applied to people like the San today it does them no great service to be rendered thus. A political scientist analyzing the present situation of Australian Aborigines at the second international conference on hunting and gathering societies (Quebec, September 1980) suggested that their current predicament is due in part to the fact that white Australians do not regard them fully as people of account, as a force to be reckoned with, in short, as menschen. Though it is easy to trace such attitudes back to oldfashioned anthropological writers, at the back of my mind is the persistent call, "We have met the enemy and he is us." Unwittingly victims of rigid concepts and evolutionist categories, we, the modern anthropologists, continually promulgate this view. Lee's ethnography is far too insightful and comprehensive to stay locked into a framework of economic boxes and Marxist "modes." Discarding these constraints will reveal the subject in a more realistic light and serve to free his altruism and basic love of these people from those intellectual bonds that we all share.

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## References

- 1. R. B. Lee and I. DeVore, Eds., Man the Hunter
- (Aldine, Chicago, 1968).
  2. R. B. Lee and I. DeVore, Eds., Kalahari Hunter-Gatherers (Harvard Univ. Press, Cambridge,
- Mass., 1976).
   N. Howell, Demography of the Dobe !Kung (Academic Press, New York, 1979); J. E. Yellen, Archaeological Approaches to the Present (Academic Press, New York, 1977). C. Schrire, Hum. Ecol. 8, 9 (1980).
- B. H. Sandelowsky, S. Afr. Archaeol. Soc. Goodwin Ser. 2, 65 (1974); B. H. Sandelowsky, J. H. van Rooyen, J. C. Fogel, S. Afr. Archaeol. Bull. 34, 50 (1979).
  E. N. Wilmsen, Afr. Stud. Cent. Boston Working Pap. 3 (1980).

## Social Psychology

Social Exchange. Advances in Theory and Research. Kenneth J. Gergen. Martin S. GREENBERG, and RICHARD H. WILLIS, Eds. Plenum, New York, 1980. xviii, 306 pp.

Social Exchange contains 12 chapters, all related in some way to the social exchange models of Thibaut and Kelley, Homans, Blau, and others. However, major topics of social exchange research and theory, such as bargaining, cooperation and competition, and social power, receive almost no attention. In the preface, the editors state that their aims in compiling the book were to present "new voices in the arena" of social exchange theory, to act as a catalyst by bringing together work from different disciplines, and to show that exchange theory can provide a unified conceptual view of diverse phenomena. Unfortunately, none of these aims is fulfilled particularly well.

The voices in the volume are, for the most part, not new. Almost all the material has appeared previously. There are, however, some notable exceptions. Although most of a chapter on equity theory by Leventhal is drawn from earlier papers, Leventhal does present an expanded analysis of procedural fairness (in contrast to the distributive fairness of equity theory). Levinger and Huesmann. after repeating material from a previous paper on incremental exchange theory, do offer some revisions to the theory. In analyzing the patterns of outcome matrixes for heterosexual dyads, Willis and Frieze present stimulating new theoretical ideas.

Investigations from different disciplines are not brought together in the book to any great extent. Eight of the chapters are by social psychologists. There are two chapters on anthropological approaches (one co-authored by an economist), one chapter on organizations, and one chapter on operant-conditioning research on animals. Work out-

side of psychology, such as by political scientists, economists, or macrolevel sociologists, receives little attention. Social psychologists will probably find the two anthropological chapters provocative. In one, Befu calls for an integration of the anthropologist's interest in describing the rules of exchange in a given society with the social psychologist's interest in analyzing the strategy of social exchange. A chapter by Pryor and Graburn on "the myth of reciprocity" demonstrates what might might be learned from this. The authors investigated whether reciprocity actually occurred in an Eskimo village and concluded that it was violated to a considerable extent. The conclusion is important for social psychology. In the usual laboratory situation, people are forced to make allocation decisions or to respond immediately to the allocations of others. Outside the laboratory, long time intervals may pass before an opportunity for reciprocity or restoration of equity occurs. Furthermore, in the frequent give and take of ongoing social relationships, keeping score in order to maintain reciprocity or equity may be difficult. Consequently, equity may be achieved mainly by cognitive adjustments, a mechanism postulated by equity theory that has received rather little attention.

The book does not show how diverse phenomena could be brought under the umbrella of exchange theory. In fact, the reader is likely to conclude that nothing much is gained by relating such topics as leadership and uniqueness to exchange theory. The chapters on those two topics would lose nothing by the dropping of any reference to exchange theory.

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## Radiobiology

Radiation Effects on Aquatic Organisms. Papers from a symposium, Zushi Beach, Kanagawa, Japan, May 1979. Nobuo Egami, Ed. Japan Scientific Societies Press, Tokyo, and University Park Press, Baltimore, 1980, xiv. 292 pp., illus. \$44.50.

The hazards associated with the disposal of radioactive wastes in marine and freshwater environments have generally been considered from the human viewpoint. However, the controlled release of radionuclides to lakes, rivers, or seas also subjects populations of aquatic organisms to increased irradiation, and