one's eyes, one is led to believe that there is a good deal of conformity among middle-class young people to their peer group styles and norms. On the other hand, there seems also to be a good deal of self-direction in the current unrest of middle-class youth. Perhaps Kohn is right that when they get into the work world their values become more fixed. At least it would be interesting to come at the problem from the point of view of the young. If somebody does it is to be hoped that the task is undertaken with the care and skill that Kohn has brought to his.

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Modern Maya

Zinacantan. A Maya Community in the Highlands of Chiapas. EVON Z. VOGT. Belknap (Harvard University Press), Cambridge, Mass., 1969. xxxii, 736 pp., illus. $25.

Modern Mayan-speaking Indians fascinate Americanists. Some 5000 years of continuity in highland Guatemala and later in the Yucatan peninsula and highland Chiapas, the heritage of a now-attenuated civilization of monumental architecture, astronomy, and calendrical mathematics, the stubborn maintenance of identity in the face of pressure from Spanish and Spanish-influenced outsiders, and the complex ritual and political organization, all present problems and at the same time offer opportunities for at least partial answers to questions about the nature of prehistoric Mayan society and culture, about forces for continuity and change in acculturation processes, and about the relationships among ideology, ritual, and social organization.

The highland Chiapas municipio of Zinacantan and its 8000 inhabitants are an example of this kind of problem and opportunity, and are interesting in themselves as a community of people coping with their natural and social environment. The book thus promises to serve, along with such classic reports as Bogoras's *The Chukchee* and Radin's *The Winnebago Tribe,* as a source for library fieldwork. Certainly such a report should come out of a project that has been going on since 1957 and that has involved 93 fieldworkers and has produced over 150 published and unpublished specialized reports.

Although the book attends to some aspects of material culture, such as corn production, house building, and clothing, and of social organization, such as social groupings and settlement patterns, kinship and *compadrazgo,* and religious and religio-political offices, more attention is paid to ideology and ritual. Ritual behavior, especially in healing and religio-political contexts, serves as a basis for examination of patterning in Zinacanteco society and culture, and of "encapsulation" as a process of adjustment to influences from the outside. Inferences from ritual behavior also serve as a basis for speculation about the nature of Mayan culture in the prehistoric past and Zinacanteco culture in 1984, when the Harvard Chiapas Project will still be operating if plans are successful.

Vogt describes a highly integrated culture and society and implies that this integration is one of the reasons for the tenacity with which Zinacanteco identity is maintained. The points of integration of subsistence system, world view, and social organization are the rituals expressing land rights of localized patrilineages, rituals renewing and circumscribing the territory of waterhole groups, Year Renewal ceremonies conducted by hamlets, and the cargo rituals that involve members of hamlets throughout the municipio. In part this integration is a result of the participation of close to 90 percent of the male population in a hierarchical system of offices through which a man may move by gaining seniority and respect and by performing community service, and a complementary hierarchy of shamans who may also hold cargo offices; in part the integration is a result of the structural similarity of the rituals and their embeddedness one in the other. The structural similarity and repetition of ritual acts Vogt terms "structural replication," and the extension of terminology and symbolism in ritual and nonritual contexts he terms "conceptual replication." Both processes of "replication" and "encapsulation" contribute to the maintenance of Indian identity through centuries of contact.

These concepts help organize thought about aspects of acculturation that can be isolated for heuristic purposes. But somehow social scientists are still surprised when they find people "mixing" traits diffused from European culture with their traditional traits. This seems to be especially startling in the case of religion and ritual, in spite of evidence of the same processes in European Christianity, from the expressions of Astarte in the exaltation of Mary to the honoring of Norse gods in the days of the week. For the most part, Vogt recognizes that this is a natural and ordinary process, and presents Zinacanteco culture as a whole culture, but his occasional lapses, punctuated by exclamation marks, when he discovers a Zinacanteco, for example, wearing traditional garb, ribbons flying, bearing a tuba across the Pan American Highway, give a false air of the 19th-century folklorist amazed and amused at the adulteration of the "pure" tradition. (One of the joys of anthropology is discovering these incongruities, and one's sense of humor will get the best of one sometimes.) Such lapses are few, however, and the data will serve students well in developing alternatives to the outmoded "acculturation continuum" and trait-list approaches to the study of culture contact and culture change.

In spite of the excellence and care it manifests in general, this book fails in a respect in which no modern ethnography should fail—especially one with the amount of preparatory fieldwork that this book has had. In spite of the fact that approximately two-fifths of the fieldworkers were women, the women of Zinacantan remain shadowy figures hovering in the background, waiting on the men at appropriate times or appearing and disappearing on cue. Vivid descriptive passages and careful attention to detail elsewhere demonstrate that this is a result not of lack of skill but of conceptual inertia. The study of the roles of women in different cultures has been frustrated by this lack in past ethnographies; modern social scientists should be sensitive to this problem.

Zinacantan contains 200 graphic illustrations, 8 drawn maps, and 16 tables. About three-quarters of the illustrations are photographs, which makes this one of the most richly documented ethnographies in American publication. The book deserves attention as a milestone in visual anthropology.

Through the years of the Harvard Chiapas study many thousands of photographs must have been made by the stream of fieldworkers who have participated in this project. The illustrations in the book, therefore, are a

scant sample of this recording and represent editorial preference more significantly than the actual concerns of the fieldworker photographers. Nevertheless, a strong pattern of initial photographic "vision," as well as of editorial selection, can be discerned.

In part the illustrations tell us where the anthropologists' eyes were looking. Overwhelmingly the camera was turned to detail rather than whole relationships. To be sure, there are ten stunning aerial photographs of Zinacanteco communities, some of which are accompanied by excellent drawn maps showing settlement pattern. But there is not one ground-level view of a community, and out of nearly 150 photographs only some 15 show us enough surrounding background to suggest the shape and the ecology of the Indians' world and how it looks to Indian eyes.

Sociometrically this narrow view is found again. In all the scenes of social and religious life only 23 photographs are wide enough in field to allow the reader to make inferences concerning the social structure. Usually the camera is too close to show us how the Indians relate spatially by role or status. (As if aware of this shortcoming, the author has included copious diagrams of social structure and the exact positioning of religious happenings.)

Ethnographically, the photography is generally oriented toward details of artifact and technology rather than toward human behavior. There are many more photographs of tools and processes than of scenes revealing child development or of human relations in the home.

Behind these visual limitations probably lies a methodological neglect of photographs as data as compared to illustration. While both Vogt and George Collier used aerial photographs for direct research in community surveys of settlement and land use and have given exciting papers on the opportunity such photographs present, ground-level photographs were not, to my knowledge, similarly used. Had they been, the quality and coverage of the photography might have been quite different. Indian informants successfully read and gave insights into the community from aerial photographs. How much more they might have read from more intimate records of home, social, or ceremonial circumstances.

Aside from these reservations concerning the visual anthropology, *Zinacantan* is a richly illustrated work. The photographs—most of them the work of Frank Cancian with significant contributions by John D. Early and Mark L. Rosenberg and a few by other fieldworkers—allow us to relate warmly with the Indians. We see the Zinacantecos as intelligent, responsive, and delightful people. In this respect we can only compare this study to Robert Gardner and Karl Heider's *Gardens of War* or, much earlier, Miguel Covarrubias's creatively illustrated work on Java.

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The Isoptera

Biology of Termites. KUMAR KRISHNA and FRANCES M. WEESNER, Eds. Academic Press, New York, 1969–70. 2 vols. Vol. 1, xiv, 600 pp., illus.; vol. 2, xvi, 648 pp., illus. $32 each.

The insect order Isoptera, or termites, originated over 100 million years ago from cockroach-like ancestors. They acquired symbiotic, cellulose-digesting protozoans in their guts and, thus accoutered, were able to organize into tight little family groups devoted to the enterprise of extracting energy from dead vegetation by reducing it to piles of lignin dust. Termites rival the ants in diversity and their degree of specialization for social life. The great mounds of the African fungus-growing species are, for example, elaborately constructed in a way that insures fresh air conditioning in the living quarters. Hot air rises into the central flue near the top of the nest and passes laterally to a honeycomb of flat galleries located next to the outer nest wall; and as it cools, it drops to cellar-like chambers beneath the living quarters. A human engineer allowed only the use of the same building materials would be considered brilliant to come up with a structure as efficient. Such feats of coordination among thousands or millions of colony members are made possible in part by the existence of richly diversified caste systems. My favorite example of extreme specialization is in the soldier caste of *Globitermes*, the body of which is half filled with a gland containing sticky defensive fluid. When defending the nest against intruders the insect often turns into a living bomb—by contracting its abdomen violently, rupturing the body wall, and spraying its adversary with the gland contents. Similar instances of suicidal behavior on behalf of the colony are commonplace in termites, as well as in other social insects. Their existence is but one of several ways by which the behavior of these insects differs fundamentally from that of their solitary relatives.

The time is right for a new synthesis of termitology. The literature has grown to about 7000 titles, and although the annotated catalogs and taxonomic lists of Thomas E. Snyder have been invaluable aids during the past 20 years, the need for a full-dress review of the subject in the language of modern biology is obvious. The two volumes of *Biology of Termites* fill the gap more than adequately. The contributions of the 24 authors vary from exhaustive to sketchy, and from highly professional to amateurish. The editors could perhaps have done no better; their collaborators are for the most part the leading specialists in the world on their respective topics. Certain contributions are worth singling out because they treat rapidly developing subjects and present original viewpoints. These include exocrinology (C. Noirot), communication (A. Stuart), colony foundation (W. L. Nutting), caste (E. M. Miller and C. Noirot), biochemistry (B. P. Moore), and symbiosis with fungi (W. A. Sands). Among the more disappointing chapters is one by D. H. Kistner on termitophiles. The treatment is limited principally to the symbiotic staphylinid beetles. Although it provides a useful updating of Kistner's own studies of these organisms, the vast amount of published information on other groups, much of it of high quality and fascinating in the extreme, deserves a more balanced review. It is hoped that the author will provide us with one at a later date. Volume 1 is devoted wholly to the biology of termites, especially their anatomy, physiology, and behavior. Volume 2 is mostly, but not exclusively, concerned with a region-by-region survey of the classification and distribution of termites, an effort which, in conjunction with Snyder's *Catalog of the Termites (Isoptera) of the World*, will make taxonomic research much easier in the future than is the case for most other insect orders.

For the most part, *Biology of Termites* is a thorough and well-written treatise which will form the needed