

Book Reviews

A Mesoamerican Civilization

Dumbarton Oaks Conference on the Olmec. Washington, D.C., 1967. ELIZABETH P. BENSON, Ed. Dumbarton Oaks Research Library and Collection, Washington, 1968. xii + 186 pp., illus. \$7.50.

America's First Civilization. MICHAEL D. COE. Richard B. Woodbury, consultant. Published by American Heritage, New York, 1968, in association with the Smithsonian Institution (distributor, Van Nostrand, Princeton, N.J.). 160 pp., illus. \$4.95. Smithsonian Library.

The rise, spread, and legacy of Olmec civilization are attracting more attention today than at any time in the past from archeologists working in Mesoamerica. As a result, new finds are accumulating rapidly. It was to present and discuss some of these that the Dumbarton Oaks Conference on the Olmec was convened in October 1967. The volume edited by Benson contains seven original papers read at this meeting, transcripts of some of the discussions that followed, and an additional paper by David C. Grove submitted later in written form.

An introductory paper by Matthew Stirling sketches the development of Olmec studies since Melgar's discovery of the first colossal head at Tres Zapotes in 1862. The three papers that follow are by Robert F. Heizer, Michael D. Coe, and Kent V. Flannery. They present the spectacular results achieved by these investigators at La Venta (Tabasco), at San Lorenzo (Vera Cruz), and in the Valley of Oaxaca, respectively.

Coe's report ("San Lorenzo and the Olmec civilization") presents what is perhaps the most novel body of evidence to result from recent work. Coe has been able to identify the earliest manifestation of Olmec culture so far known, the San Lorenzo phase (see *Science*, vol. 155, 1967, p. 1399), reliably dated from about 1200 to 900 B.C. The San Lorenzo phase is notable for earth-moving activities on a vast scale and the production of large numbers of stone monuments. Moreover, the pottery can be cross-tied unambiguously to numerous other Mesoamerican assemblages for the first time, and

suggests what some investigators are beginning to perceive as an Early Olmec horizon.

Heizer ("New observations on La Venta") brings up to date what is now a fairly long and at times tortuous story of excavation, interpretation, re-interpretation, and depredation at the famous site found by Stirling in 1945. Radiocarbon dates place the span of La Venta between 1000 and 600 B.C. Heizer's recent work shows that the mound at La Venta, once mapped as a somewhat deviant but nonetheless acceptable example of the widespread quadrangular type of Mesoamerican pyramid, is, in fact, shaped like an inverted cupcake, with ten furrows running down its rounded sides. Another notable discovery is a cluster of structures and monuments (the Stirling Group) which is located a quarter of a mile southeast of the La Venta mound and which has yielded covered stone drains and pottery of the San Lorenzo phase.

Flannery's paper ("The Olmec and the Valley of Oaxaca: a model for inter-regional interaction in Formative times") describes for the Etla region an early phase (San José), closely related to Coe's San Lorenzo assemblage, and a later phase (Guadalupe), which links up with later occupations in Vera Cruz, Tabasco, and other portions of Mesoamerica (see *Science*, vol. 158, 1967, p. 445). The San José finds are of particular interest in suggesting that some communities in the highlands may have been acting as purveyors of valued exotic materials (in the present case, magnetite and ilmenite) to lowland centers such as San Lorenzo. In interpreting this situation, Flannery advances ethnographic analogies from the Northwest Coast of North America and from Burma to show how such a relationship might lead to the acculturation of a "developing" culture and the acceptance by it of some of the visible (or "superficial," as Flannery calls them) features of a higher-prestige culture. Flannery's model is a plausible one. Caution, however, should be exercised in dealing archeologically with colonialism, which, as we all know, is a phenomenon that takes

many forms, some of them highly deceptive in appearance. Economic advantage, the search for status and prestige, political domination, and the rationalization of these and other factors on the ideological level are generally involved, but their precise manifestation and "mix" vary. Before we see the expansion of Olmec culture in terms of a particular model, alternatives should be listed and defined and a program for testing them devised.

The fourth paper based on new field data, which occurs at the end of the volume, is that of David C. Grove, who has been working in the state of Morelos. Like Flannery, Grove offers a model, pointing out that all six of the genuine Olmec sites known today in Morelos are located in a manner to suggest that they were "commercial control centers" rather than simply farming villages. A degree of compatibility (largely unmeasurable) can indeed be asserted to exist between the data and the hypothesis. Yet the relationship of six sites to an irregular, mountainous landscape must be recognized as weak evidence in a quantitative sense. We need better assurance that other Olmec sites do not exist in the region, that alternative explanations for the location of the known ones can be rejected, and that specific materials (jade, obsidian?) were traded along the routes postulated by Grove.

The three other papers in this volume, unlike the four just discussed, present not the fieldwork of their authors but interpretations of certain aspects of Olmec culture. Ignacio Bernal ("Views of Olmec culture") emphasizes the unity of Mesoamerican civilization, which causes him to reject the notion of the Olmec as the "mother culture" of Mesoamerica, simply because "mother" and "offspring" in the present case are a single civilization. Bernal also proposes what may prove to be very fruitful contrasts between "metropolitan Olmec" in Vera Cruz and Tabasco, "Olmecoid" cultures such as Flannery's San José phase in Oaxaca, and "colonial" Olmec, exemplified by such relatively remote outposts as Tlatilco in the Basin of Mexico. Tatiana Proskouriakoff ("Olmec and Maya art: problems of their stylistic relation") addresses herself to the question of Olmec uniqueness, and stresses, perhaps too much, the inadequacy of knowledge of contemporary cultures in other regions. She draws attention also to the "pot-bellied" sculptures of the Pacific slope and highlands of Guatemala as

one of the few styles that are related to the Olmec while possibly existing as early if not earlier in time. Finally, she notes evidence highly suggestive of antiquarianism in later Classic times, when Olmec and other early monuments were apparently reused at certain ceremonial centers. Peter T. Furst, in the third and last of these interpretative essays ("The Olmec were-jaguar motif in the light of ethnographic reality") develops the interesting notion that the were-jaguar theme so pervasive in Olmec art may reflect the concept of shaman-jaguar transformation and equivalence widespread in the Tropical Forest and Circum-Caribbean cultures to the south. The appeal of this idea is that it suggests a possibly older source for at least one element of Olmec culture which, so far, has seemed remarkably lacking in antecedents, whole or partial.

The attractive book by Michael D. Coe in the Smithsonian Library series covers some of the material presented in the Dumbarton Oaks volume. Here, however, the findings are fitted into a narrative, at times suspenseful, of the history of research on the Olmec. The style is agreeable, the illustrations pleasing, and the factual content high. Appealing features include a number of hitherto unpublished sketches by the Mexican artist and art historian Miguel Covarrubias. The volume's intended audience is evidently the ubiquitous "intelligent layman." In view of this, one readily forgives the enthusiasm which the author displays toward his own views on controversial matters, since this not only makes for good reading but also avoids the sort of obscure controversy which even the most intelligent of laymen often fail to appreciate.

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The Ice Age in Britain

Pleistocene Geology and Biology. With Especial Reference to the British Isles. R. G. WEST. Wiley, New York, 1968. xiv + 377 pp., illus. \$9.50.

This is a little book about a big subject—not only the geology and biology but also some of the glaciology, geochemistry, geophysics, and archeology of the Pleistocene, which, in West's usage, includes the entire Quaternary period of geologic time. Broad coverage

is inevitable when one attempts a textbook dealing with the processes and history of the Quaternary, even if the coverage is restricted geographically. Such a book might be an exhaustive compendium (like Charlesworth's two-volume *The Quaternary Era*), as difficult to handle as an encyclopedia, or it can turn out to be superficial or perfunctory. This book is a kind of compromise. The number of pages (excluding illustrations) devoted to ice and glaciers cannot properly treat modern glaciology, and an equal number of pages concerned with the design and operation of coring devices seems out of balance. On the other hand, the two chapters on the British Isles, comprising a third of the book, constitute a systematic summary of geologic and paleontologic studies of that area.

Other chapters consider glacial geology, nonglacial sediments and stratigraphy, the periglacial zone, stratigraphical and biological investigations, land/sea-level change, chronology and dating, climatic change, and Pleistocene successions and their subdivision. In addition, appendices are devoted to methods of isolating and counting fossils and the lacquer method of treating sections. Bibliographic coverage is selective but up-to-date. Comments on methods are inserted in order to provide students with a practical guide to research.

Richard West has had a long association with the Sub-Department of Quaternary Research at the University of Cambridge and is now its director. This diversified and productive research center has been involved in many facets of Quaternary study, especially vegetational history. As a consequence West has been able to discuss with acumen and authority the central results and problems of the British Pleistocene in the context of events on the mainland.

The text is supported by more than 130 line drawings, about 50 tables, and many photographs. Most of the line drawings have a pleasing uniformity in cartographic style. Many of the figures and tables had to be placed sideways on the page, but some could have been redesigned so as to reduce the annoying necessity of turning the book around so many times.

Pleistocene Geology and Biology provides Americans with a larger choice of English-language textbooks and basic reference works on the Quaternary. It gives American readers a modern review of the Pleistocene of northwestern Europe with especial emphasis on the

biologic history, and as such it will be more useful to students than the encyclopedic Charlesworth, more accessible than the German-language Woldstedt, and more integrated (and less detailed) than the country-by-country summaries edited by Rankama in the series entitled *The Quaternary*. Wiley, the publisher, seems to have its hand firmly in the Pleistocene, what with Flint's textbook, the Rankama volumes, and now West's. It is a sign of growing interest in this diversified field of study.

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Some Arthropods

Aspects of the Physiology of Crustacea. A. P. M. LOCKWOOD. Freeman, San Francisco, 1968. x + 328 pp., illus. \$9. University Reviews in Biology.

Since the two volumes of *Physiology of Crustacea* edited by T. H. Waterman appeared in 1960 and 1961, the number of research papers dealing with this important group of animals has steadily increased. Lockwood's book is not an attempt to update the earlier volumes. Its most important stated objective is to provide an outline of certain aspects of crustacean physiology for advanced students to read "at a few sittings." Although Crustacea are obviously one of the most fascinating groups of organisms for study because of their extreme diversity in ecological and physiological requirements, I think the general student in zoology will not derive a basic appreciation of biological problems by reading this book. He will gain an appreciation of specific physiological topics relative to crustaceans, but a unifying biological theme is lacking. In general, Lockwood writes clearly and with authority, as he has done in his previous publications.

There does not seem to be any general principle governing the choice of "aspects" to be included in or excluded from this book. For example, there is no chapter devoted specifically to reproductive physiology, although this topic has recently been the subject of renewed investigation. Some of the chapters reflect the updating (about 40 percent of the 567 publications cited have appeared since 1960) or judicious paring down of previous work but suffer from the lack of new physiological themes.

Understandably, the first physiological subject discussed is that of osmotic and