Book Reviews

A Maya Site

The Prehistory of Chalchuapa, El Salvador. ROBERT J. SHARER, Ed. University of Pennsylvania Press, Philadelphia, 1978. In three volumes, illustrated. Vol. 1, Introduction, Surface Surveys, Excavations, Monuments and Special Deposits. Robert J. Sharer *et al.* xviii, 194 pp. + site plans. Vol. 2, Artifacts and Figurines. Payson D. Sheets and Bruce H. Dahlin. xx, 212 pp. Vol. 3, Pottery and Conclusions. Robert J. Sharer. xviii, 226 pp. Paper. Each volume, $17; the set, $45. Museum Monographs.

Despite the amount written on the archeology of Mesoamerica during the past 50 years, reports of surprisingly few really large and important site excavations have been published. Chalchuapa, the subject of the present report, is a large highland site in western El Salvador, near the border of Guatemala, about 120 kilometers southeast of the important Maya center of Kaminaljuyu. It consists of several ruin groups, the best known of which, the Classic and Early Postclassic Tazumal Group, was excavated and restored by Stanley H. Boggs in the 1940's. Robert J. Sharer's 1966–70 excavations in the Preclassic El Trapiche, the Classic Casa Blanca, and the Postclassic Penate groups and along the shores of Lagunas Cuzcachapa and Seca have exposed architectural, ceramic, and artifact sequences from about 1200 or 1000 B.C. until the Spanish Conquest. This record is the most complete in existence for the southern Maya highlands and northern Central America, and it provides one of the longest prehistoric sequences in southern Mesoamerica.

The three volumes include descriptions of the excavations and architecture by Sharer, Bruce A. Anderson, David W. Sedat, and Payson D. Sheets; a presentation of burials and caches by Sharer; a short section on stone sculpture by Dana Anderson; monographs on the ceramics, artifacts, and ceramic figurines by Sharer, Sheets, and Bruce H. Dahlin, respectively; and a concluding section by Sharer.

Sharer's report on the ceramics is the best and most comprehensive now available for the southeastern Maya frontier. The Preclassic sequence is tightly anchored, being fixed to deep stratified deposits along the shore of Laguna Cuzcachapa, but most Classic and Postclassic sherds derived from mixed mound fill. The detailed type-variety analysis contains more information than do many such reports, including color notations, ranges and mean of vessel dimensions, and analyses by wares, form and decorative attributes, and modes. The modal analysis should be especially useful to comparative ceramists. It crosscuts the preceding typological description, providing a list of significant attributes and attribute combinations that cluster in ceramic groups of one complex or adjacent complexes. Sharer also adds a short section on pottery traditions at Chalchuapa that ties together related ceramic groups through time, and he discusses the probable functions of most vessel forms. Both of these sections, at least for southern Mesoamerica, are innovative. No report on the pottery from Boggs's major excavations at the Tazumal Group in Chalchuapa has been published, and this portion of the sequence is unavoidably somewhat weak. Sharer does, however, classify all the vessels from Tazumal that could be located at the time of his own investigations.

The comparative sections are good, but Sharer does not include a discussion of ceramic spheres in the southeastern Maya highlands and beyond. Enough information might now be available to permit such a reconstruction.

Sheets's analysis of the Chalchuapa artifacts is one of the most impressive to come out of southern Mesoamerica, in large part because he concerns himself in detail with the technology of manufacture and with questions of culture change. The most common artifacts (12,206) by far were of chipped stone, and the most interesting facets of the study involve this category. Several changes are observable in the sequence. Cortex-bearing chipped stone decreased from 14 to 7 percent, suggesting an increase in preforming at the source. A faster method of removing platform overhang on obsidian cores was gradually adopted, accompanied by a great increase in the relative frequency of obsidian blades, from less than 10 percent in the Early Preclassic to 69 percent by the Postclassic. These changes perhaps reflected a growing recognition of the flexibility of the core-blade technology, as they paralleled an increase in the number of tools fashioned by blades. Sheets compared rates of change in the various artifact industries, determining that the rates of change differed, with chipped stone being the most conservative, perhaps because this industry was most closely related to utilitarian concerns and because many chipped stone tools had multiple uses. It also became apparent that changes in different artifact industries (including ceramics) did not occur at the same time.

A very large number of figurines (498 classifiable heads) permitted Dahlin to undertake a detailed and thorough type-variety analysis that would not have been feasible with more limited remains. Except for 12 examples, his sample dates to the Preclassic period. During the years from 1200 to 600 B.C. a broad zone of figurine production extending from Guerrero to the southeast Maya highlands was characterized by free expression and strong tendencies to naturalism, caricature, and portraiture. The span from 600 to 350 B.C. showed increasing conventionalism and a trend toward local and regional types. Many trade types, however, some Olmec-related, are assigned to this period. The Late Preclassic was marked by increasing regionalism. Dahlin believes that during this time the southeast highlands and the Pacific piedmont of Guatemala formed a relatively unified zone of figurine production, mostly free from outside influences.

I find little in the report to criticize. The illustrations are generally very good but could have been improved in some cases. Some of the excavation photographs are almost unintelligible. Sheets presents only two pages of drawings of chipped stone artifacts, and only two pages of ceramic photographs are included, one of which shows only one type. Photographs are, I think, essential for ceramic comparisons, and their virtual absence here is a drawback, although the line drawings are excellent.

The culture-historical conclusions of *Chalchuapa* are based on study of all remains, but, as is often true, architecture and ceramics seem to be the most informative for interpretation of change and continuity. The earliest pottery and figurines, unassociated with architecture, appear to be most closely related to materials known from the Pacific coastal plain, and Sharer suggests that settlers arrived from this area about 1200

B.C. During the Middle Preclassic (900 to 500 B.C.) the site grew tremendously. Structure E3-1-2nd, in the El Trapiche Group, reached a height of more than 20 meters, and it seems probable that other mounds in the El Trapiche Group were begun during this time.

A number of ceramic types and modes in the Middle Preclassic are reminiscent of Olmec ceramics, and these similarities, plus the undeniably Olmec-style boulder carvings at nearby Las Victorias, suggest to Sharer an Olmec presence of some sort. He argues that "it seems more reasonable to conclude that the Olmec contacts are the result of the establishment of a station or settlement at or near Chalchuapa to control the supply of local materials in demand in the Olmec homeland, perhaps cacao, hematite and obsidian." Actual Olmec presence is of course possible, but we are far from understanding the nature of "Olmec" influences outside their southern gulf coast heartland, and I regard the evidence as ambiguous. The ceramic links and the one sculptured stone might well be explained by less drastic influence. Sharer also suggests that the tremendous size and probable importance of Chalchuapa in the Late Preclassic might have been stimulated by this initial Olmec contact.

Several years ago Sharer and James C. Gifford noted that several Middle Preclassic Chalchuapa ceramic types were very closely related to contemporary or slightly later types of the Xe and Mamom ceramic complexes in the Peten. For this reason they hypothesized that part of the Preclassic lowland Maya might be traced to western El Salvador. Now that the account of the Chalchuapa pottery has been published, ceramists will be better able to judge this claim.

The Late Preclassic marked a period of accelerated growth. Structure E3-1 was rebuilt, reaching a height of about 25 meters, and the platforms of the El Trapiche Group eventually covered about half a square kilometer. The pottery of this period is closely related to that of the Late Preclassic Kaminaljuyu, and architectural complexes also seem reminiscent of groupings at that site. A badly eroded Late Preclassic stela from the El Trapiche Group that bears a possible *uinal* glyph adds to the evidence that Maya hieroglyphic writing may have originated in the southern highlands, rather than in the lowlands.

The Preclassic florescence of Chalchuapa seems to have been brought to an end by a massive volcanic eruption at what is now Lake Ilopango, beside modern San Salvador, perhaps about A.D. 200 or 300. Sharer and Sheets argue that sufficient ash fell in the area around Chalchuapa to disrupt local cultural development, that the Protoclassic Floral Park intrusion in the eastern Maya lowlands was probably the result of emigration from western El Salvador, and that at this time the southern highlands lost preeminence to the lowlands, never to regain it. Perhaps, they venture, this eruption was only "a single instance of possible widespread volcanic activity that depopulated vast areas and tore apart the fabric of highland Maya society at the close of the Preclassic." Could the decline of the Maya highlands relative to the lowlands have been the result of a chain of cataclysmic eruptions? A further inference is that the intrusion of Teotihuacan elements at Kaminaljuyu in the Early Classic might have been a "by-product" of this collapse, rather than a cause. These suggestions are sure to provoke heated comment.

The results of investigations in Classic and Postclassic remains are less earth-shaking, in part because of the unavailability of many of the Tazumal data. The Central Mexican architectural features at this huge restored complex suggest to Sharer the arrival of Nahuat-speaking Pipil groups in the Early Postclassic, and the presence of Chinautla Polychrome sherds in Late Postclassic deposits may be ascribed to Maya Pokomam peoples whose presence at Chalchuapa is documented in early historical accounts. But after the Preclassic, despite the close Late Classic ceramic ties to the important southeastern Maya site of Copan, in Honduras, Chalchuapa remained peripheral to Maya culture.

E. WYLLYS ANDREWS V
Middle American Research Institute,
Tulane University,
New Orleans, Louisiana 70118

A Russian View of Desertology

Deserts of the World. M. P. PETROV. Translated from the Russian edition (Leningrad, 1973). Halsted (Wiley), New York, and Israel Program for Scientific Translations, Jerusalem, 1977. viii, 448 pp., illus. + loose maps. $57.50.

Petrov's book deals extensively in its 15 chapters with the Russian research done on the large deserts of middle and central Asia, fitting it into the framework of desert investigations all over the globe and comparing it with the results of desert research in general. The most important Russian contributions are concerned with the physical features of the Russian and Chinese deserts, which are dealt with in 30 pages (the deserts of North America get only 6½ pages) containing much new material (for example, meteorological and climatic data from new meteorological stations and accounts of geomorphology and soils), and with the environmental conditions in these deserts, especially sandy deserts. There is also much new material on the practical exploitation of Russian deserts. There are a number of comparative tables, including one on the classification of Asian deserts, that are original and helpful even though one may not agree with all the details.

Sandy deserts in general get much more attention than other desert types, apparently because Petrov's original intention was to restrict the book to them. Perhaps the best part of the book is that which deals extensively with these deserts and with the movement of sands in general.

In other interesting chapters Petrov compares the physiographic landscapes of deserts and discusses the process of desiccation and the pattern of adaptation and convergence in desert animals and plants. Here again the accent is on Russian research and much interesting information is made available to the Western reader.

The last three chapters of the book treat the use of deserts today and in the future. The focus of these chapters is on the enormous effort of the Russians to open virgin desert land to practical use: to use "phytoreclamation" to create new grazing grounds, to irrigate the desert by diverting large rivers and by constructing enormous canals thousands of kilometers long, and to build vast hydroelectric and industrial complexes. The size of the efforts and plans is overwhelming. Petrov states that the Russians intend to bring 20 million hectares of virgin land, 10 percent of the entire desert area of middle Asia and southern Kazakhstan, into cultivation and at the same time to turn the area into one of the largest energy-producing regions of the U.S.S.R. But is it not slightly premature to conclude that "deserts can no longer be categorized as unproductive and barely utilized areas as they have now become highly productive"? It is also typical of this kind of optimism that Petrov only here and there hints at the dangers involved in making the desert "productive," dangers with which we have become only too well acquainted during the last ten years.

It is unavoidable that a book of this scope contains some rather doubtful statements, such as that "desert