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**CONTRIBUTIONS
OF THE
UNIVERSITY OF CALIFORNIA
ARCHAEOLOGICAL RESEARCH FACILITY**

Number 3

August 1967

STUDIES IN OLMEC ARCHAEOLOGY

**UNIVERSITY OF CALIFORNIA
DEPARTMENT OF ANTHROPOLOGY
BERKELEY, CALIFORNIA**

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UNIVERSITY OF CALIFORNIA ARCHAEOLOGICAL RESEARCH FACILITY
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CONTENTS

I.	A RECONSIDERATION OF THE AGE OF THE LA VENTA SITE, by Rainer Berger, John A. Graham and Robert F. Heizer	1
II.	ANALYSIS OF TWO LOW RELIEF SCULPTURES FROM LA VENTA, by Robert F. Heizer	25
III.	SCULPTURES AND ROCK CARVINGS AT CHALCATZINGO, MORELOS, by Carmen Cook de Leonard	57

I. A RECONSIDERATION OF THE AGE OF THE LA VENTA SITE¹

Rainer Berger, John A. Graham and Robert F. Heizer

During the excavation of the La Venta site in 1955 by Philip Drucker and Robert F. Heizer on a National Geographic Society—Smithsonian Institution—University of California expedition, nine samples of wood charcoal were collected from the area north of the pyramid (A-2), in what has been termed Complex A. These nine samples (M-528/536) were dated by the University Memorial—Phoenix Project Radiocarbon Laboratory, University of Michigan, in 1957. Costs for the date determinations were paid by the National Geographic Society. The radiocarbon dates for La Venta were published and discussed by Drucker, Heizer and Squier (1957; 1959:264-267) and Crane and Griffin (1958: 1104). The conclusion reached by the excavators was that Complex A of the La Venta site "appears, from the radiocarbon determinations, to have been constructed and used during approximately the four centuries 800 to 400 B.C."

Most archaeologists have accepted for the last decade the age of the La Venta site as falling within the first half of the first millennium B.C. Before 1957 there was less unanimity and more varied opinion on the antiquity of the Olmec sites (cf. Drucker, Heizer and Squier 1959:248-253). A. Medellin Zenil (1960), Stuckenrath (1965:281), and Coe and Stuckenrath (1964:7-20) are among those who either ignore the radiocarbon dates from the La Venta site or believe that these have not been reliably interpreted. Drucker and Heizer attempted (1965:51-54) to clarify some of the points of objection which Coe and Stuckenrath raised concerning the 1957 Michigan dates, and it is in the hope of further clearing up the question of the age of the La Venta site that we have re-examined the 1957 series and added to them other C-14 dates secured since that time. As a result, we are encouraged to present here a "new," or at least modified, proposal of the floruit of La Venta. Dates for a second major Olmec site, San Lorenzo, in southern Veracruz, have recently been published by Coe, Diehl and Stuiver (1967), and their interpretation of the chronological and cultural relationships between the San Lorenzo, La Venta, and Tres Zapotes sites is evaluated.²

It was, in fact, about ten years ago that the original Michigan radiocarbon dates for La Venta (M-528/536) were determined. In the meantime, significant improvements have been achieved in the accuracy and reliability of this dating technique. Besides processing and instrumentation advancements, the half-life ($t_{1/2}$) of carbon-14 has been more accurately determined to

¹ See p. 22 for end notes.

be 5730 ± 30 years. The older value of 5568 ± 30 years is still used in Radiocarbon for purposes of world-wide uniformity among dating laboratories. Furthermore, there have been observed secular variations in the C-14 content of the biosphere which sometimes make a correction of a radiocarbon date necessary. For the time span of interest in this article, these variations appear to be similar to those of the last 2000 years (Suess 1965). When they have been quantitatively determined and checked, a revision of the following newer radiocarbon dates may be of benefit for even greater accuracy.

Through the foresight of the Michigan laboratory, sufficient charcoal of the originally dated samples was preserved to permit re-runs at UCLA in 1967, under the designation UCLA-1283/1287. These are reported below.

Two additional samples, UCLA-902 and UCLA-903, were measured in 1964 by Berger, Fergusson and Libby (1965). They were part of the raw material which was submitted to the laboratory of the U.S. Geological Survey in 1955 and was later forwarded to UCLA.

Finally, there are two archaeologically relevant dates based upon charcoal excavated in 1964 by Squier, which are listed as UCLA-1276A and UCLA-1276B by Berger and Libby (1966).

<u>La Venta Phase I</u>	<u>$t\frac{1}{2}$ 5568</u>	<u>$t\frac{1}{2}$ 5730</u>
UCLA-902 Charcoal from leveled base sands underlying and contemporaneous with Phase I in mound A-2	2940 ± 80	3030 ± 80
UCLA-1285 Charcoal from Phase I platform in mound A-2	2820 ± 60	2905 ± 60
UCLA-1286 Charcoal from artificial fill underlying and contemporaneous with Phase I floor in NW platform	3000 ± 60	3090 ± 60
<u>La Venta Phase II</u>		
UCLA-1284B Charcoal from bottom of Phase II pit 68 in. below surface of NW platform	2550 ± 60	2625 ± 60
UCLA-1284A Same as above but without HCL treatment	2530 ± 60	2605 ± 60

<u>La Venta post-Phase IV</u>	<u>t$\frac{1}{2}$ 5568</u>	<u>t$\frac{1}{2}$ 5730</u>
UCLA-1283 Charcoal from lower margin of post-Complex A occupation windblown sands lying on Phase IV surface W of NE entryway	2380 \pm 60	2450 \pm 60
UCLA-1287 Charcoal from burned area on Phase IV surface W of limestone slab paving near NE entryway	2415 \pm 60	2490 \pm 60
UCLA-903 Identical sample to UCLA-1287 dated in 1964	2460 \pm 80	2530 \pm 80
<u>Refuse zone outside La Venta ceremonial site</u>		
UCLA-1276A Charcoal from yellow-brown sandy clay layer at depth 240-255 cm from surface excavated in Pit C by R. Squier, 1964	2765 \pm 80	2850 \pm 80
UCLA-1276B Charcoal from yellow-brown sandy clay layer at depth 255-270 cm from surface excavated in Pit C by R. Squier, 1964	2930 \pm 80	3020 \pm 80
UCLA-1253 Charcoal from occupation refuse lying directly on clay subsoil at point ca. 300 ft. NW of La Venta pyramid	3060 \pm 90	3140 \pm 90

When all the relevant dates are compared with their Michigan counterparts, certain discrepancies can be recognized. It must be borne in mind, however, that the deviations of ca. ± 300 years associated with the original Michigan dates are the best estimate of the composite uncertainties due to counting statistics, chemical processing, variations in the operation of the counters, and so forth, as cautioned by Crane and Griffin (1958). Among the present re-runs, the newer measurements still fall essentially within that age spread estimated ten years ago, but they are associated with much narrower uncertainties.

The point may be raised as to whether the charcoal samples, after a decade of storage, were still suitable for dating, especially in the light of atomic weapons testing and perhaps contamination by adsorbed higher-level carbon dioxide. This fear can be immediately set to rest, since the pair of UCLA-1284 samples without (A) and with (B) hydrochloric acid pretreatment

gave practically identical ages, 2530 and 2550 years. Even so, all samples were treated in the accepted manner to remove contaminants. Additional confirmation of stable counter operation over four years is found in comparing the same sample, for example UCLA-903 and UCLA-1287.

The problem of contamination of the charcoal used for dating by pieces of asphalt-like material³ of much greater age was carefully considered, as a sample was found to contain this carbonaceous substance during processing. Subsequently, all samples were carefully screened to exclude the amorphous contaminant. This problem was evidently also encountered by Coe, Diehl and Stuiver (1967), and might explain previously published dates of abnormally great age for the larger Tabasco and Veracruz area.

In February 1967, when on a casual visit of a couple of hours at La Venta, two of us (JAG, RFH) noted, at a point about 300 feet northwest of the great pyramid and about 75 feet south of the edge of the airstrip, a charcoal-loaded sherd deposit near the bottom of a shallow, machine-cut drain ditch. A sample of the charcoal from this deposit, which lay directly upon sterile clay subsoil, was radiocarbon dated in April 1967 at UCLA (UCLA-1253), and is 3050 ± 90 years old (1100 B.C.) as calculated by the old half-life, or 3140 ± 90 years old using the newer value.

The refuse deposit has not been stratigraphically related to the La Venta mound group, but the radiocarbon age of the deposit adds to the picture of an Early Preclassic occupation of the mound group vicinity. By our present radiocarbon age reckoning, the refuse layer from which sample UCLA-1253 came was deposited at about the same time as the Phase I constructions of La Venta were being built.

The rarity of pottery in Complex A prevents reliable, or at least substantial, cross-correlation of the ceremonial site and the adjoining refuse deposits, or cross-correlation of the ceremonial site construction phases and ceramic sequences defined elsewhere.⁴ While nothing found in Complex A at La Venta in deposits laid down through the Phase I-IV time span proves that the construction activities occurred either in Early or Middle Preclassic times, it is important to note that, by the same token, these periods are not ruled out as the time or times of building and use. Since the La Venta ceremonial site is peculiarly difficult to date by cultural associations, radiocarbon age determinations seem to offer the greatest promise for answers.

The absence of occupation refuse beneath the mound constructions and surfaced areas of the La Venta site, taken together with the general occurrence of trash deposits beyond the perimeter of the ceremonial site area (Drucker 1952:10-22), probably means that the ceremonial area was off-limits as a living zone from the time of the earliest large-scale occupation of La

Venta island. That pre-Phase I mound structures and/or plaza surfaces existed—probably in the main ceremonial site area—is suggested by the clay chunks with colored clay wash-surfacings found in some of the fill layers underneath the Phase I structures and in some of the Phase I fills (Drucker, Heizer and Squier 1959:37-38, 44, 67, 124, 298; Drucker and Heizer 1965:41-42). We now suggest that these earlier structures probably were situated in the actual ceremonial site area, but cannot estimate how much older they are than the Phase I constructions named and identified by Drucker, Heizer and Squier (1959). There is no pottery or stone sculpture that can be associated with these evidences of pre-Phase I clay mounds or floors. Apparently La Venta island, or that part of the island where the ceremonial center we know as the La Venta site was built, was not occupied or used until the ceremonial site was established in pre-Phase I times. This inference strongly suggests that the La Venta site is contemporaneous with the oldest refuse deposits on the perimeter of the site. This conclusion, while important, would be even more significant if we knew how to date the pre-Phase I activity in the ceremonial site area, and had reliable dates for the lowest refuse levels in the trash deposits lying just outside the ceremonial site boundaries.

The age of La Venta Phase I can be judged from UCLA-1286 (3000 ± 60), UCLA-1285 (2820 ± 60), and UCLA-902 (2940 ± 80); the average age of these three samples is 2920 years (970 B.C.). Two unchecked dates (M-529, 2860 ± 300 ; M-535, 3110 ± 300) do not contradict this, and if all five are averaged, we have 2946 BP, or 996 B.C.

Phase II is represented by a single sample (UCLA-1284) which is 2550 ± 60 years old, or 600 B.C.

Phase III is undated.

Phase IV beginning or end cannot be dated directly with any samples collected in 1955, but there are two samples of wood charcoal which post-date Phase IV. Certain assumptions must be made of the elapsed time between the abandonment of the site and the deposition of the wood charcoal of samples M-528/UCLA-1283 and M-533/UCLA-1287/UCLA-903. We refer the reader to earlier discussions (Drucker, Heizer and Squier 1957; 1959:260-267) about these samples. Assuming an interval of one century between abandonment of the site at the end of Phase IV and deposition of the charcoal, we can add 100 years to the average of UCLA-1283, UCLA-1287, and UCLA-903, which is 2418 BP (468 B.C.), and derive 568 B.C., which we then round off to 600 B.C., as the time of the end of Phase IV at La Venta.

In summary, we propose that Phase I at La Venta dates from 1000 B.C., and that abandonment of the site at the end of Phase IV occurred about 600

B.C. This is a change of 200 years from the age of the site based upon the Michigan radiocarbon dates first published by Drucker, Heizer and Squier (1957).

In view of the fairly considerable revision we propose of the dating of La Venta Phases I-IV, we venture to comment briefly upon some of the possible implications.

Since the La Venta and San Lorenzo sites are the sources of the major portion of the corpus of Olmec monumental sculpture now known, the chronological relationship of the two sites is, and has been, of interest to archaeologists. While there has long been little direct evidence to elucidate their relative dating, most students have tended to place San Lorenzo as following La Venta in time (e.g. Kubler 1962:67; Coe 1965a). With the recent determinations of radiocarbon ages of a series of San Lorenzo locality charcoal samples, Coe, Diehl and Stuiver (1967:1400) have proposed to reverse this arrangement and to have the early occupation of the San Lorenzo site date from the Early Formative (i.e. Early Preclassic), and the La Venta site date from the Middle Formative (i.e. Middle Preclassic). In contrast to both of these views, our suggested revision of the La Venta dating would make this site essentially coeval with the Early Preclassic San Lorenzo phase at the site of San Lorenzo. This is supported by our date for Phase I at La Venta, which is 1000 B.C., and the average of the five reliable San Lorenzo riverbank refuse deposit samples, which is 1074 B.C.

We do not feel that this alignment is at all implausible. We note that in Test Pit C, dug by R. Squier just outside the La Venta site in 1964, there was found a good sequence of Early Preclassic pottery,⁵ and this lends plausibility to, but not, of course, proof of, our Early Preclassic temporal placement of Complex A. With respect to the San Lorenzo—La Venta equation,⁶ the study of the Olmec colossal heads to be published shortly argues—convincingly, we believe—that instead of representing a lengthy stylistic and temporal sequence, the heads are essentially contemporaneous. To this argument, we would add the observation that the great table-top stone altars of San Lorenzo and La Venta are so very similar in many detailed features that they do not support the idea of any substantial time differential between their carving at these sites (cf. Stirling 1955:21). That the major body of Olmec style sculpture at La Venta belongs to the general epoch of Complex A (cf. Coe and Stuckenrath 1964; Drucker and Heizer 1965) we believe cannot be successfully challenged, and we note that Coe, Diehl and Stuiver (1967) believe that the San Lorenzo sculptures probably belong to the period of the San Lorenzo phase. If, as proposed here, the San Lorenzo phase and the La Venta Complex A are contemporaneous, there is no need to suggest (cf. Coe, Diehl and Stuiver 1967:1400) that stone monuments and living leaders were transferred to La Venta when San Lorenzo was abandoned. That suggestion

indicates to us that these students agree with us on the point of the practical identity of some classes of the stone sculptures at the two sites.

A major problem for future investigation, which is presented by our proposed La Venta—San Lorenzo Phase equation, is the nature of the relationship between these two great centers of the florescence of Olmec sculptural art. The far more substantial and elaborate architectural remains at La Venta, the presence of numerous caches of jade, the fact that three times as many large stone sculptures have been found at La Venta than at San Lorenzo, all argue for La Venta's greater importance, but it will remain for future students to elucidate the nature and historical significance of the relationship (cf. Stirling 1955:23).

The suggestion that the La Venta site portion of the corpus of Olmec monumental sculpture dates from the Early Preclassic period raises various important questions. Although there is clearly much still to be learned about the early history of the other great monumental art styles of Mesoamerica, this new dating of the florescence of Olmec style separates it even farther in time from the early horizons now known of the other great traditions. We would not see in this evidence for, or confirmation of, the "mother civilization" thesis argued by some writers, but rather a reaffirmation of the precocious nature of Olmec artistic development. Furthermore, we think it unlikely that while such precocious developments in monumental sculptural art may not have occurred in other early Mesoamerican centers at this time, significant advances in different realms of cultural development probably were being achieved elsewhere. As with that earlier great event of Mesoamerican culture history, the domestication of plants, we incline not to see the whole of Mesoamerican civilization as the creation of a single group of brilliant people. The proponents of mother cultures often have the fault of ignoring the father and siblings.

The Tres Zapotes site, on the basis of ceramics excavated in several localities within the site zone (Drucker 1943; Weiant 1943), has been judged to be later than La Venta by several recent studies (Squier n.d.; Coe 1965a), contrary to earlier evaluations by the excavator (Drucker 1947, 1952). In view of the difficulty of associating the time of the La Venta site with any particular segment of the chronological sequence of the adjoining refuse deposits, the temporal relationships between the several entities comprising (1) the La Venta site; (2) the La Venta refuse deposits; (3) the various Tres Zapotes mound groups; and (4) the Tres Zapotes refuse deposits, may be rather more difficult to work out than has been hitherto assumed by Coe, Squier, and others. If Tres Zapotes Mound Group 1, where Colossal Head TZ 1 was found, does prove to be later than the La Venta and San Lorenzo sites, we will be mildly surprised, since the colossal heads from San Lorenzo and the La Venta sites are believed by us to be of the same age (cf. Drucker, Heizer and

Squier 1959:262). In this respect, we note that Tres Zapotes Mound Group 1 has received very little excavation, and that the large ceramic collections, made and reported upon by Weiant and Drucker and on which Squier and Coe base their analyses, were obtained in other sections of the general site area. If, however, Tres Zapotes Mound Group 1 does prove to be later than La Venta and San Lorenzo, the associated colossal head (TZ 1) may be explained as (1) an older piece of sculpture moved to a later site (cf. Coe 1965a:694), or, (2) a copy by later people of an earlier form of monumental sculpture made at San Lorenzo and/or La Venta. Among alternative possibilities is the one that Tres Zapotes Mound Group 1 was built, and Colossal Head TZ 1 was sculptured, at the very end of the occupation of San Lorenzo and La Venta, which was also the time when all of the San Lorenzo colossal heads (SL 1-6) and La Venta colossal heads (LV 1-4) were sculptured. In this case Tres Zapotes Mound Group 1, according to the chronology proposed here, would have been erected about 800 B.C. The same arguments hold, we believe, for the Nestepe mound group (about whose archaeology we know nothing), where Colossal Head NS 1 (earlier referred to by Heizer, Smith and Williams 1965, as Tres Zapotes Colossal Head No. 2; and by Stirling 1965:733, as Tres Zapotes Monument Q) was found. Another alternative is that we are incorrect in believing that the twelve San Lorenzo, La Venta, Tres Zapotes, and Nestepe colossal heads were all sculptured at about the same time. By "about the same time" we mean within a period of not more than one century. Our opinion in this respect runs counter to those who see the colossal heads as comprising a sequential series rather than a stylistically and temporally closely related group of one particular kind of Olmec sculpture.

Only further excavation and additional radiocarbon dates will solve the problem of where Tres Zapotes fits in the Olmec culture sequence.

With respect to the origins of Olmec monumental sculpture itself, it seems probable to us that this is not to be looked for either at the San Lorenzo or La Venta centers. We would search for this in an area with abundant and easily exploited large stones, where early sculptors could have developed a long familiarity with stone carving on a monumental scale. There are hints at La Venta that the site may have been planned and built by persons already familiar with the use of stone in architecture. Purely as a hypothesis, we could point to earlier occupation in the area of the abundant stone deposits of the Tuxtla Mountains, where also is to be found a highly favorable environmental setting for early farmers. The failure thus far to find such early remains in that locality we attribute to insufficient exploration, as well as to the strong probability that such remains would be obscured or buried beneath sheet deposits of volcanic ash.

Turning now from beginnings to endings, we are struck by the apparent approximately coeval abandonment of the San Lorenzo and La Venta ceremonial

sites. According to Coe, Diehl and Stuiver (1967), after the abandonment of San Lorenzo there ensued in this locality a complete hiatus in occupation until long into post-Olmec (Late Classic) times. Why the Middle and Late Preclassic peoples avoided the San Lorenzo locality is an important question. One wonders if further search may not produce some evidence of continuing occupation in the area during these times. At La Venta, there continued in Middle and Late Preclassic times to be some utilization of the island after the abandonment of Complex A, and we cannot be certain that there was no continuation of Olmec ceremonialism at other (now largely destroyed) mound groups on the island. We know of no certain association of Olmec monumental sculpture with these other constructions, and we are inclined to see the end of active Olmec monumental art production and ceremonialism on La Venta island as concomitant with the abandonment of Complex A.

The widespread distribution of Olmec-related ceramics and sculpture in Mesoamerica during the Middle Preclassic period has evoked much comment by various writers. The area of these manifestations extends from El Salvador in the south to central Mexico in the north. Such remains have, in large part, become known through illegal excavation and sale of the contraband materials. The archaeological context of most of the objects of portable size is unknown, and in those few cases where controlled excavation was practiced, the data either are not published, or are so casually published as to prevent their effective utilization. Boulder or cliff sculptures, such as those at Chalchuapa, Salvador, and Chalcatzingo, Morelos, are not directly datable. Because this body of information is so difficult to deal with, it is not surprising that there are different opinions as to the age of the sites, attribution of authorship, and reasons for their existence. One hypothesis holds that these sites are evidence of an Olmec empire which was formed by military conquest; another has it that they were local seats for administering a far flung commercial establishment; and still another, that they are manifestations of religious proselytizing by evangelically minded missionaries. With the presently proposed dating of the end of the La Venta and San Lorenzo centers at about 800 to 600 B.C., such interpretations seem even less plausible than they might have previously. We think it worth considering as a hypothesis that the apparently coeval end of the two large Olmec centers of the southern Veracruz-northern Tabasco heartland reflects some great and momentous happening which resulted in the widespread dispersal of the culture carriers, and that this movement is evidenced in such localities as Chalchuapa (Salavador), San Isidro Piedra (Guatemala), Chalcatzingo (Morelos), Tlatilco and Tlapacoya (Valley of Mexico), and Las Bocas (Puebla), to name a few of the better known places (cf. Coe 1965b; Drucker, Heizer and Squier 1959:253-259; Piña Chan and Covarrubias 1964).

In what we have written above, we have attempted to refrain from sounding positive, and have also tried not to push our admittedly limited evidence

beyond reasonable limits of interpretation. Our proposal, that the site of La Venta was built and maintained during the period 1000 B.C. to 600 B.C., will be objected to by many of our colleagues. Some will say that they wish to wait until there is more evidence before they commit themselves; a few colleagues will embrace the proposal because it sounds unusual. To all of these, whether they be doubters, unbelievers, or accepters, we can offer nothing more helpful than the reminder that the Olmec area of southeastern Mexico is one that offers great returns for a little hard work. What is desperately needed here is additional intensive archaeological survey and excavation, for in the whole region of southern Veracruz and northern Tabasco there has been pitifully little investigation done. New and important sites await discovery and exploration. He who fancies himself as a rough-and-ready field archaeologist need only secure a permit from INAH, equip himself with a knowledge of Spanish, some high boots for protection against the fer-de-lance, insect repellent, water purifier, dysentery remedies, a four-wheel drive vehicle, plenty of money, considerable patience, and some reserve nerve for unpleasant confrontations, and go into the field and locate a new batch of ten-ton sculptures. The trail has been blazed, the easy discoveries have been made, the ceramic chronology has been blocked out. All that is needed is some hard work. It is abundantly clear that some very important things were going on in this region just before and just after 1000 B.C., and we should learn more about this as soon as we can. We would recommend the lower slopes of the eastern border of the Tuxtla Mountains as a locality that should be productive of new sites and monuments. The Nestepe mound group, just north of Tres Zapotes, may well hold a great wealth of stone sculpture which will be the harvest of the first investigator to carry out the right kind of exploration. There are some really impressive large mound groups on the flat-lands just west of the Tuxtla Mountains that can be seen on the road to the village of Salina Roca Partida. There are dozens of what appear, from the air—in the Veracruz-Minatitlan CMA plane—to be ideal site locations on flat terraces which truncate into the ocean along the northern edge of the Tuxtla Mountains. None of this exploration will be easy; some of it will be difficult, even hazardous, but it will be done, and those who try it first will find the best.

We do not know how many people are interested in the problems of Olmec chronology. To our minds, the proposal to shift the La Venta site two centuries farther back in time is important to culture historians primarily because it emphasizes even more strongly an achievement unique at the time in the whole of the New World, of the development of planned architecture, of monumental sculpture in quantity, and of extraordinary sophistication. If the Olmec genius was, as it seems to have been at this degree of remove, truly unparalleled, then we have available one of the most unusual experiments in the history of man's culture. Here is an opportunity to study this remarkable culture in terms of its generation, its form, its duration, and its

termination. It is this, we think, that is important about prehistoric Olmec culture in southeastern Mexico, and we regret only that these people were such excellent jade carvers and modelers of clay, for it is the presence of such products of the Olmec artists, as well as the greed of some modern men, that has caused and encouraged the destruction of essential information that might ultimately allow us to understand the Olmec culture more completely.

APPENDIX I

RADIOCARBON DATES FROM LA VENTA CEREMONIAL SITE
AND LA VENTA ISLAND REFUSE DEPOSITS

Samples M-528/536 have been available since 1957, and published references to discussions of these are given on the first page of this paper. The re-dating of two of the Michigan series (UCLA-902/903) was done in 1964, and these have been discussed in papers cited in the foregoing text. Re-dating of additional samples of the Michigan series (UCLA-1283/1286), plus a second re-dating of M-533 (UCLA-1287), was done at UCLA in May and June 1967, and these dates are here published for the first time. They will appear, with appropriate comments, in Radiocarbon, Vol. 10, as part of UCLA Date List VII. Samples UCLA-788B-D were dated in 1964, and were published in Radiocarbon, Vol. 8:474-475, 1966. UCLA-1276A/B were determined in June 1967, and are here published for the first time. These will appear in Radiocarbon, Vol. 10, in UCLA Date List VII. The same is true of UCLA-1253, UCLA-1280A/B, and UCLA-1281B.

Samples enclosed in brackets are two age determinations made from same original sample batch

Sample No.	Age (calculated with 5568 ± 30 yr. half life)	Age (calculated with 5730 ± 30 yr. half life)	Remarks
<u>M-528</u> <u>UCLA-1283</u>	2400 ± 250 2380 ± 60	2475 ± 250 2450 ± 60	Both age determinations the same
<u>M-530</u> <u>UCLA-1284B</u> <u>UCLA-1284A</u>	2760 ± 300 2550 ± 60 2530 ± 60	2845 ± 300 2625 ± 60 2605 ± 60	Michigan (1957) age older by 210 and 190 years than UCLA (1967) ages
<u>M-531</u> <u>UCLA-902</u>	2560 ± 300 2940 ± 80	2540 ± 300 3030 ± 80	Michigan (1957) age younger by 380 years than UCLA (1967) age
<u>M-532</u> <u>UCLA-1285</u>	2650 ± 300 2820 ± 60	2730 ± 300 2905 ± 60	Michigan (1957) age younger by 170 years than UCLA (1967) age
<u>M-533</u> <u>UCLA-1287</u> <u>UCLA-903</u>	2130 ± 300 2415 ± 60 2460 ± 80	2195 ± 300 2490 ± 60 2530 ± 60	Michigan (1957) age younger by 285 years than UCLA (1964, 1967) ages
<u>M-534</u> <u>UCLA-1286</u>	2670 ± 300 3000 ± 60	2750 ± 300 3090 ± 60	Michigan (1957) age younger by 330 years than UCLA (1967) age
M-529	2860 ± 300	2950 ± 300	Not re-dated by UCLA because of insufficient sample material

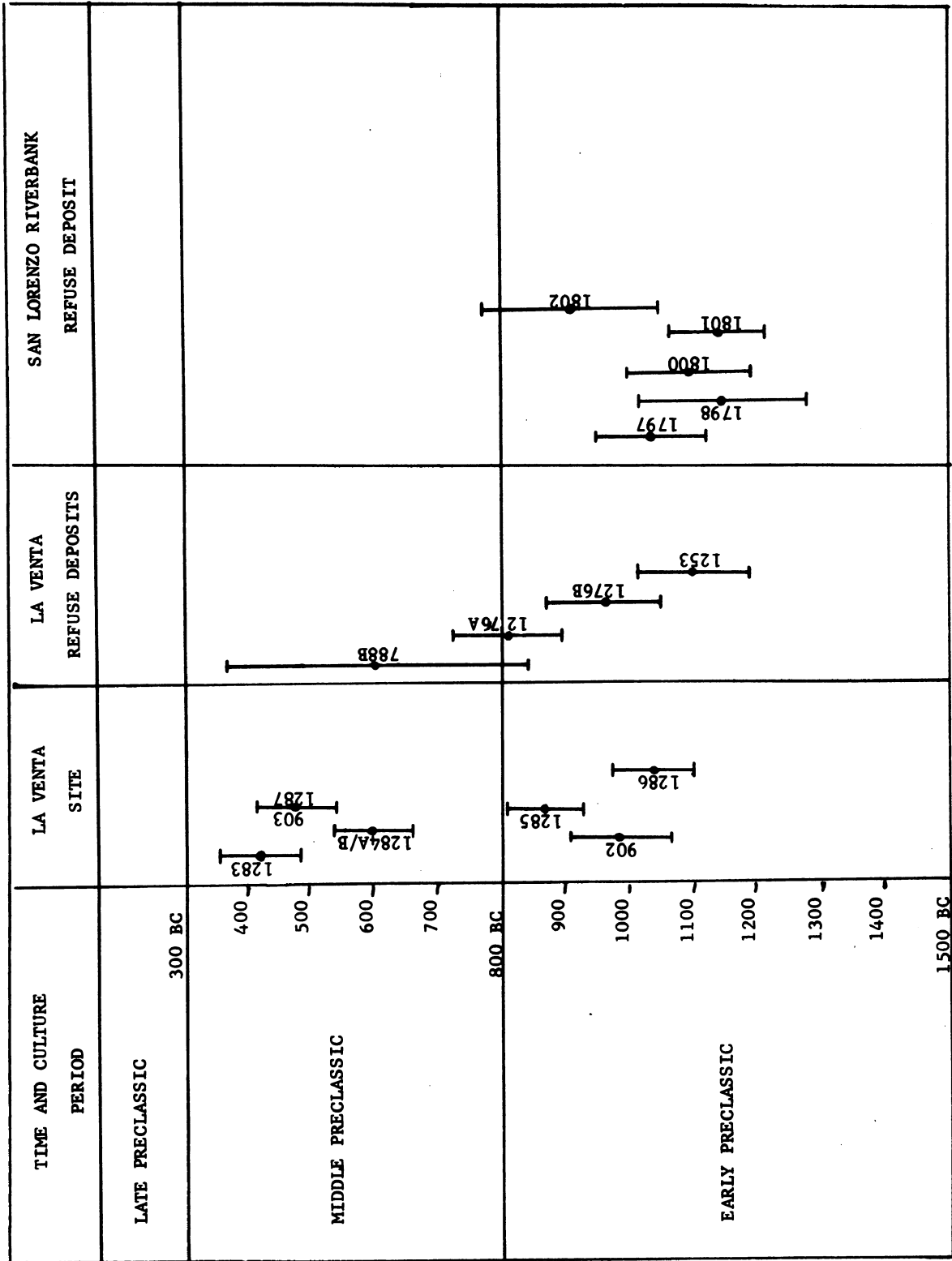
Age determinations [cont'd.]

Sample No.	Age (calculated with 5568 ± 30 yr. half life)	Age (calculated with 5730 ± 30 yr. half life)	Remarks
M-535	3110 ± 300	3205 ± 300	Not re-dated by UCLA because of insufficient sample material
M-536	2530 ± 300	2605 ± 300	Not re-dated because sample cannot be correlated with La Venta site building phases
UCLA-788B	2560 ± 240	2640 ± 240	Associated with "latest Early Pre-classic or earliest Middle Preclassic activity in area." From R. Squier's Pit C-1964 in refuse deposits near La Venta site, depth from surface 210-214 cm
UCLA-1276A	2765 ± 80	2850 ± 80	From R. Squier's Pit C-1964, depth from surface 240-255 cm
UCLA-1276B	2930 ± 80	3020 ± 80	From R. Squier's Pit C-1964, depth from surface 255-270 cm
UCLA-788C	3760 ± 80	3875 ± 80	From R. Squier's Pit C-1964, depth from surface 270-285 cm. Charcoal probably contaminated with asphalt; date unacceptable
UCLA-788D	9750 ± 160	---	From R. Squier's Pit C-1964, depth from surface 360-365 cm. Charcoal contaminated with asphalt, date unacceptable

UCLA-1253	3050 ± 90	3140 ± 90	From sherd-rich refuse layer lying directly on clay subsoil ca. 300 ft. NW of the La Venta pyramid; not in ceremonial site area but in occupation refuse outside borders of Complex A
UCLA-1281B	1760 ± 155	1815 ± 155	From depth of 148-153 cm below surface in R. Squier's Pit B-1964 "some distance southeast of Pit C," outside ceremonial site area. Date does not agree with excavator's expected age of 1300-1400 B.C.
UCLA-1280A	1835 ± 90	1880 ± 90	From depth of 114-119 cm below surface in R. Squier's Pit B/1-1964 (extension of Pit B-1964). Date does not agree with excavator's expected age of 1200-1300 B.C.
UCLA-1280B	1720 ± 180	1775 ± 180	From depth of 153-160 cm below surface in R. Squier's Pit B/1-1964 (extension of Pit B-1964). Date does not agree with excavator's expected age of 1300-1400 B.C.

A graphic representation of site dates is shown on page 16.

GRAPHIC REPRESENTATION OF SITE DATES



All La Venta dates are UCLA; all San Lorenzo dates are Yale. Dates considered in error due to asphalt contamination are omitted here. See Appendix I.

APPENDIX II

AN ILLUSTRATION OF THE DANGERS OF MANIPULATING RADIOCARBON DATES

In April 1967, an earlier version of this paper was written by Graham and Heizer. As a result of our thinking about the problem, we decided to ask Professor James B. Griffin if any of the original carbon material was being kept at Ann Arbor. Griffin sent us nine small boxes which contained what we assumed were the solid carbon scrapings of M-528/536, but which actually turned out to be additional charcoal from the original samples; that is, the material left over after the M-528/536 dates were determined. We thus unexpectedly found ourselves in the position of being able to re-date M-528, M-530, M-532, and M-534 in much the same way that M-531 and M-533 had been re-dated in 1964.

However, before they knew that there was available additional undated original charcoal from the 1955 La Venta excavations, Graham and Heizer had suggested, in the April 1967 draft of this paper, that a correction factor of +350 years could be applied to the 1957 Michigan dates, and the following is what they wrote at that time. We venture to cite verbatim this now abandoned and incorrect proposal because it illustrates the kind of manipulation of available data which archaeologists often perform. In this case, we were saved from committing ourselves in print by the unanticipated availability of sufficient amounts of the original carbon samples to determine ages. What follows is what might have been published, and it serves as a cautionary example. We should add that Dr. Berger had nothing to do with the writing of the April draft, and that he is free of the onus of such bad guessing.

"It is our assumption that the M-531/UCLA-902, M-533/UCLA-903 pairs are two sets of identical twins. If two laboratories, at an interval of seven years, determine that the age of one individual of each of two assumed identical twins is different, then we should try to explain this. We suggest that the difference may be due to something inherent in the laboratory determinations. Without knowing how to explain the different dating results, we assume that between 1957 and 1964 laboratory procedures have improved, or been made more precise, and that the 1964 dates are to be preferred to the 1957 ones. We may be wrong about this, and we have no special knowledge that enables us to support our decision to prefer the 1964 dates; however, that is the position that we now take. In doing this, we are in effect

saying that if the nine carbon samples which were dated at Michigan in 1957 had been run at UCLA in 1964, it is our opinion that the UCLA age determinations would have been older than those secured from the Michigan laboratory in 1957. This assumption rests upon the two samples which serve as checks; for the other seven there is no means of verification. Readers who feel that two checks out of nine are insufficient to establish some sort of correction factor need read no further. Similarly, readers who feel that Coe and Stuckenrath (1964) have successfully challenged the archaeological interpretation of the La Venta dates and their associations need read no further. In this paper we are not re-arguing the validity of the association of the dates, but rather are seeking to adjust the radiocarbon age measurements themselves.

"The age determined for UCLA-902 is 380 years older than that for its twin, M-531. The age for UCLA-903 is 330 years older than that for its twin, M-533. The difference, considering the probability that we are dealing with charcoal 2.5 thousand years old, may not appear to be very great. Yet the inter-sample difference (330 and 380 years) is substantially greater than the intra-sample difference (50 years), and it is this which seems to argue for a standard, non-accidental difference between the two sample twins.

"There may be some statistical probability method that would permit us to choose the best figure to represent the probable real difference, but we elect to take the rounded-off average difference, which is 350 years. Applying this figure as a standard correction factor to the 1957 Michigan dates, we have:

La Venta Site	Sample No.	Age (yrs. BP) (Michigan 1957)	Correction factor (yrs.)	Corrected age (yrs. BP)	Corrected Date (B.C.)
Phase I	M-535	3110	+350	3460	1510
	M-529	2860	+350	3210	1260
	M-534	2670	+350	3020	1070
	M-532	2650	+350	3000	1050
	M-531	2560	+350	2910	960
Phase II	M-530	2760	+350	3110	1160
post-Phase IV	M-528	2400	+350	2750	800
	M-533	2130	+350	2480	530

"We are aware of the inconsistency of having accepted the UCLA radiocarbon ages of samples UCLA-902 and UCLA-903 as accurate, and then proceeding immediately to reduce the age of one and increase the age of the other, however slightly, by imposing the average difference as a correction factor.

"At this point, we should point out explicitly that we do not wish to minimize the difficulties of answering the questions which Coe and Stuckenrath (1964) have raised about the interpretation of the 1957 La Venta radiocarbon dates. Drucker and Heizer (1965) took the position that the age of the charcoal samples collected in 1955 was approximately contemporaneous with the time the fill layers were carried to the site and laid down. At the same time, this cannot be literally true, especially in view of the rather wide spread of ages of the five Phase I samples, whose corrected dates range from 960 to 1510 B.C. In short, we are not arguing that Phase I at La Venta did cover a span of 550 years. The radiocarbon sample which provides the greatest difficulty here is M-531, which has a corrected age of 2910 years, and which should be about the same age as, or slightly earlier than, M-535, whose corrected age is 3460 years. If M-531 seems too young and M-535 too old, the three other Phase I attributed samples (M-529, M-534, M-532), which are fairly close together in time and whose average date is 1127 B.C., may indicate (assuming the charcoal to have been reasonably contemporary with the fill deposition activities) the probable age of the constructional elements from which the charcoal was secured.

"An alternative is to take the two charcoal samples from the lowest levels of Mound A-2 (M-531, M-532) as referring to a time close to the beginning of construction of Complex A (cf. Drucker, Heizer and Squier 1959:264-265, fig. 10). These are the two youngest samples attributed to Phase I. The average of their corrected dates (M-531, 960 B.C.; M-532, 1050 B.C.) is 1005 B.C., a figure only one century later than that derived by the selective averaging described above.

"Let us look at the problem from the standpoint of the two post-Phase IV carbon samples (M-528, M-533). Their corrected dates are 800 B.C. (for M-528) and 530 B.C. (for M-533). Both samples were deposited after the abandonment of the La Venta site. Since we are unable to explain how this charcoal came to be laid down there, or to account for the 270 year time discrepancy between the two, we again take the simple average of the two, which is 665 B.C., add the estimated century interval between abandonment of the

site and deposition of the fire charcoal (Drucker, Heizer and Squier 1959:267), and come up with the figure of 765 B.C., rounded off to 800 B.C., as the approximate date of abandonment of Complex A of the La Venta site.

"The average age of Phase I at La Venta (based upon corrected age of samples M-535, M-529, M-534, M-532, and M-531) is 3050 years (1100 B.C.), or 3077 years (1127 B.C.) if based upon M-529, M-534, and M-532, or 2520 years (1005 B.C.) if only samples M-531 and M-533 are considered. The first two averagings are 300 years older than the 800 B.C. beginning date which has, until now, been generally accepted.

"We conclude from this that the La Venta site should now be dated by radiocarbon age determinations as lying within the time span of 1100 B.C. to 800 B.C. It should be noted that we are dealing in uncorrected radiocarbon years. If these radiocarbon ages are adjusted for the difference in the Libby half life and the Cambridge value, as well as the C-12/C-14 fluctuation in the biosphere reservoir, then somewhat different B.C. dates would be obtained."

APPENDIX III

NOTE ON ASPHALT CONTAMINATION OF CHARCOAL IN OLMEC SITES

We have learned that there is a possibility of asphalt being present and mistaken for wood charcoal in some levels of Olmec sites. Coe, Diehl and Stuiver (1967:1400) ascribe the obviously too great age of sample Y-1799, from the riverbank at Tenochtitlán (near the site of San Lorenzo), to the probable presence of asphalt.

A sample of what was apparently wood charcoal collected by us in February 1967, in the cutbank of the Arroyo Hueyapan, near the site of Tres Zapotes and at the locus of Drucker's Trench 26 (Drucker 1943) was found to contain asphalt. After the asphalt was removed, too little wood charcoal remained to be dated.

A careful examination of a sample of apparent wood charcoal collected by Squier in his Pit C at La Venta in 1964, at a depth of 335 cm below the surface, showed this to consist of mixed wood charcoal and asphalt. A sample submitted by Squier for radiocarbon age determination in 1964, collected by him from the same Pit C at a depth of 360-365 cm below the surface, was assumed to be charcoal and was dated as 9750 ± 160 years old (UCLA-788D). This impossibly old date can be proved to be due to the presence of asphalt.

It is probable also that sample UCLA-788C was also somewhat contaminated with asphalt, though this cannot be demonstrated. As a date for ordinary hearth charcoal from this level, it appears too old, and for this reason the sample is best ignored.

Notes

1. We wish to acknowledge here our thanks for assistance and support of one kind or another to the following: Dr. W. F. Libby, Institute of Geophysics and Interplanetary Physics, UCLA; National Geographic Society Committee on Research and Exploration; Dr. Matthew W. Stirling; Dr. Philip Drucker; Dean Sanford S. Elberg, Graduate Division, University of California, Berkeley; Dr. R. J. Squier, University of Kansas; Dr. T. D. McCown, University of California Archaeological Research Facility, Berkeley; the Associates in Tropical Biogeography, University of California, Berkeley, and especially the Director, Professor Herbert G. Baker.

2. Coe, Diehl and Stuiver's dates are calculated on the basis of the old half life of radiocarbon (5568 ± 30 years). In this paper dates are cited according to the same basis. We have also provided, for possible future use, ages based upon the newer half life of 5730 ± 30 years.

3. This asphalt-like material was presumably derived from the petroliferous deposits of the Veracruz basin, especially the Isthmian Saline basin and the Yucatan peninsula.

4. It is interesting to note that Sanders points to a number of similarities in the pottery of La Venta and the Chiapa I and II Phases at Chiapa de Corzo. With respect to La Venta Complex A itself, Sanders (1961: 51-52) points to Chiapa II ties in the pottery of La Venta Offerings 5, 14, 15, 18, and 19, which span Phases I-III. Chiapa II is not securely dated in absolute terms, but is generally considered early Middle Preclassic. We must note the terminological confusion here, which results from regarding Early-Middle-Late Preclassic as fixed chronological periods, but defined on the basis of insecurely dated ceramic phases which are surely not precisely chronologically equivalent everywhere.

5. The rather casual report by Piña Chan on his stratigraphic testing at La Venta in 1958 (Piña Chan and Covarrubias 1964:16-24) is the first definite statement on Early Preclassic occupation of the locality.

6. While we have no reason to doubt the proposed ceramic-time equivalence of the lower levels of the San Lorenzo site and the stratigraphic section on the riverbank from which the charcoal for samples Y-1797/1802 was secured, it is interesting to note that Coe, Diehl and Stuiver, like ourselves, are making certain assumptions on the basis of two quite separate localities. Carbon from the San Lorenzo excavations of 1966 and 1967 seasons will doubtless be dated.

Bibliography

Berger, Rainer and W. F. Libby

- 1966 UCLA Radiocarbon Dates V. Radiocarbon 8:467-497.
 1967 UCLA Radiocarbon Dates VII. Radiocarbon 10. (In press.)

Berger, Rainer, G. J. Fergusson and W. F. Libby

- 1965 UCLA Radiocarbon Dates IV. Radiocarbon 7:336-371.

Coe, Michael D.

- 1965a Archaeological Synthesis of Southern Veracruz and Tabasco.
 Handbook of Middle American Indians, 3:679-715. Austin
 1965b The Jaguar's Children: Pre-Classic Central Mexico. Museum
 of Primitive Art, New York.

Coe, Michael D., R. Diehl and M. Stuiver

- 1967 Olmec Civilization, Veracruz, Mexico: Dating of the San
 Lorenzo Phase. Science 155:1399-1401.

Coe, William R. and R. Stuckenrath

- 1964 A Review of La Venta, Tabasco, and Its Relevance to the
 Olmec Problem. Kroeber Anthropol. Soc. Papers 31:1-44. Berkeley.

Crane, H. R. and J. B. Griffin

- 1958 University of Michigan Radiocarbon Dates II. Science 127:
 1098-1105.

Drucker, Philip

- 1943 Ceramic Sequences at Tres Zapotes, Veracruz, Mexico. Bur.
 Amer. Ethnol., Bull. 140.
 1947 Some Implications of the Ceramic Complex of La Venta.
 Smithsonian Misc. Coll., Vol. 107, No. 8.
 1952 La Venta, Tabasco: a Study of Olmec Ceramics and Art.
 Bur. Amer. Ethnol., Bull. 153.

Drucker, Philip and R. F. Heizer

- 1965 Commentary on W. R. Coe and R. Stuckenrath's Review of,
 Excavations at La Venta, 1955, by Philip Drucker and Robert
 F. Heizer. Kroeber Anthropol. Soc. Papers 33:37-70. Berkeley.

Drucker, Philip, R. F. Heizer and R. J. Squier

- 1957 Radiocarbon Dates from La Venta, Tabasco. Science 126:72-73
 1959 Excavations at La Venta, Tabasco, 1955. Bur. Amer. Ethnol.,
 Bull. 170.

Heizer, Robert F.

- 1964 Some Interim Remarks on the Coe-Stuckenrath Review. *Kroeber Anthropol. Soc. Papers* 31:45-50. Berkeley.

Heizer, Robert F., T. Smith and H. Williams

- 1965 Notes on Colossal Head No. 2 from Tres Zapotes. *Amer. Antiq.* 31:102-104.

Kubler, George

- 1962 *The Art and Architecture of Ancient America*. Penguin Books, Baltimore.

Medellin Zenil, Alfonso

- 1960 Monolitos Ineditos Olmecas. *La Palabra y el Hombre*, No. 16: 75-97. Jalapa, Ver.

Piña Chan, Román and L. Covarrubias

- 1964 *El Pueblo del Jaguar*. Mexico, D.F.

Sanders, W. T.

- 1961 Ceramic Stratigraphy at Sant Cruz, Chiapas, Mexico. *Papers of the New World Archaeol. Foundation*, No. 16.

Squier, Robert J.

- n.d. A reappraisal of Olmec chronology. (Ph.D. thesis, University of California, Berkeley, 1963.)

Stirling, Matthew W.

- 1955 Stone Monuments of the Rio Chiquito, Veracruz, Mexico. *Bur. Amer. Ethnol. Bull.* 157, *Anthropol. Paper* No. 43.
- 1965 Monumental Sculpture of Southern Veracruz and Tabasco. *Handbook of Middle American Indians* 3:2:716-738. Austin.

Stuckenrath, R.

- 1965 The Care and Feeding of Radiocarbon Dates. *Archaeology* 18: 277-281.

Suess, H. E.

- 1965 Secular Variations of the Cosmic-ray-produced Carbon-14 in the Atmosphere and Their Interpretations. *J. Geophys. Res.* 70: 5937-5951. (Also later personal communications.)

Weiant, C. W.

- 1943 An Introduction to the Ceramics of Tres Zapotes, Veracruz, Mexico. *Bur. Amer. Ethnol., Bull.* 139.

II. ANALYSIS OF TWO LOW RELIEF SCULPTURES FROM LA VENTA

Robert F. Heizer

INTRODUCTION

Between 1938 and 1943, Matthew W. Stirling, then Chief of the Bureau of American Ethnology, directed a series of Smithsonian Institution - National Geographic Society expeditions to southeastern Mexico for the purpose of archaeological reconnaissance and excavation. These explorations by Stirling, to whom goes a great deal of credit for having been the first to look for and find the archaeological sites which contained objects of the Olmec art style, led to the discovery and publication of most of the major sculptures presently known for the Olmec culture, whose center of development lay in southern Veracruz and Tabasco (Stirling 1943a; Drucker, Heizer and Squier 1959; Coe 1965a, 1965b, 1965c; Drucker 1952).

Despite a number of studies which deal with Olmec ceramics and stone sculpture (Covarrubias 1946a, 1946b, 1957; Westheim 1957:191-229; Mayas y Olmecas 1942; Drucker 1952; Coe 1965a, 1965b; Stirling 1943a, 1965; Piña Chán and Covarrubias 1964; T. Smith 1963), we are still a very long way from having at hand anything in print which can be called adequate as a stylistic analysis of the genre. Many individual pieces of sculpture are well known since they have been published scores of times, but even these familiar examples are nowhere described in detail, and ordinarily one sees the same view presented time and time again. (For bibliographies of published works on Olmec archaeology see Jones 1963; Heizer and Smith 1965.) It is as though the Olmec art style, once discovered by archaeologists, has become the almost exclusive property of the art historians, or the sole concern of that large but ill-defined segment of the public which is interested in viewing or collecting primitive art (cf. Coe 1965c). Although Stirling, Covarrubias, Drucker, and Michael Coe have made attempts to define the Olmec art style and to propose some iconographic interpretations of the style—and these efforts should not be deprecated—it is still a fact that all of this work has been based upon superficial and incomplete records of the details of the sculptured designs on the pieces themselves. In order to arrive at a meaningful knowledge and understanding of the Olmec art style which is anything more than impressionistic, we must be in possession of detailed records of all features of every piece of sculpture. To accumulate this information will require a lot of hard work, but the cost will not be excessive, nor the amount of travel unduly great. Olmec stone sculptures, whether these be the small jade figurines and ornaments, the colossal heads, the huge table-top altars, the stelae, the sculptured human figures, or the miscella-

neous monuments, are concentrated in the Museo Nacional de Antropología in Mexico City and in the regional museums established under the aegis of the Instituto in Jalapa, Veracruz, and Villahermosa, Tabasco. That such detailed studies can be done is demonstrated through the successful one-month-long research trip of four students from the Anthropology Department at Berkeley, made with the aim of making a full record of the twelve colossal heads of the Olmec culture. The monograph containing the detailed descriptions and photographs of these remarkable monumental sculptures has been completed and will be published in 1967 as Contribution No. 4 of the Archaeological Research Facility.

The Olmec stone sculptors worked with a variety of kinds of stone and with a variety of techniques, and their productions ranged from exquisitely carved and highly polished figurines and ornaments of green, gray, and milky white jadeite, which weigh only a few ounces, all the way up to stone sculptures of monumental size, the largest of which approach forty tons. No parent or source from which the Olmecs of southeastern Mexico as early as 1100 to 1200 B.C. (Berger, Graham and Heizer 1967; Coe, Diehl and Stuver 1967) drew the inspiration for their distinctive art is known, or, if it exists, it is so different that it has not been recognized thus far as the precursor of the Olmec style. Looking to the Chavin style as a source does not seem warranted to me,¹ and suggestions that its origin may have to be searched for in transoceanic localities strike me as equally, if not more, improbable. It is best, in the absence of information bearing on the question of origin, to simply admit that we do not know the answer, and to begin to search harder in Mesoamerica rather than engage in more speculation. Perhaps antecedents of Olmec art will be recognizable when we are able to speak with assurance about what Olmec art really is—this point being a extension of one made earlier.

We do not know why some Olmec art is in part miniaturized, as with the beautifully cut, polished, and often engraved jadeite figurines, celts, and plaques; and in part of such monumentality, as with the three La Venta stelae that vary from 5 to 26 tons in weight, the La Venta altars that range from 4 to 37 tons, and the four La Venta colossal heads whose weights range from 11 to 24 tons. On the time level of the La Venta site, namely at the beginning of the first millennium B.C., there is no equally large, free-standing sculpture known for Mesoamerica. If I were to hazard some explanation for the existence of this monumentality of part of the Olmec sculpture, I would guess that the group that had the authority to cause the great stone to be transported the half-hundred miles from their source to the La Venta site, and sculptured into altars, heads, and stelae, simply decided that they would carry out this work in a really big manner. All that would have been

¹ See p. 40 for end notes.

required, according to this theory, would be a large labor force, sufficiently developed transport technology, stone carvers skillful enough to design and shape the stones, and the determination on the part of the managerial group to have this plan carried out. Stirling (1965:720) has touched on this question, and his remarks indicate that he also sees in the monumentality of Olmec sculpture a kind of self-generated spontaneous gigantism.

There are three multiton "stelae" from the La Venta site. Stela 1 is a thick rectangular slab, sculptured on one face and depicting a "topless" woman standing in a rectangular niche that may represent an open doorway (pl. 2). Stela 2 is a somewhat larger, naturally flattened stone slab that is not trimmed on the surfaces or sides (pl. 1). One surface bears a low relief sculpture of a standing, ornately costumed person, presumably a priest, who is flanked on the sides and above by a number of smaller staff- or club-carrying figures whose postures indicate that they are involved in some kind of physical activity, such as kneeling or walking. Stela 3 shares with Stela 1 the feature of a well dressed stone block, and with Stela 2 the general scene of the flat-footed, inactive or static pose of the central figures—which in this instance number two—as well as the small sized individuals ranged beside and above them. Stelae 2 and 3 are therefore stylistically related.

The label "stela" has been employed here simply as a descriptive term, and continues its usage as first applied by Blom and La Farge (1926), and later by Stirling (1943a). Nothing is implied here as to the existence of a "stela cult" of the type occurring among the Classic Maya (cf. Westheim 1965: 165), and it seems most probable that the three La Venta stelae are nothing more than two special kinds of sculptured stone monuments.² La Venta Stela 1 was probably set up vertically, but we cannot be certain of this. Stela 2 and Stela 3 from La Venta were almost certainly set upright, as evidenced by the unworked lower portion and base line upon which the principal figures stand. Stirling (1965:723) discusses the probable origin and development of the Mesoamerican practice of sculpturing and erecting stelae, and includes in his survey of examples the La Venta stelae. I cannot agree with him in his identification of Stelae 1, 2, and 3 from La Venta as true stelae, or even proto-stelae, and am of the opinion that Stela 1 from La Venta is nothing more than a unique sculpture, and that Stelae 2 and 3 are two stylistically closely related low relief sculptured stone slabs that portray ritual scenes and are monuments of a type thus far known in Olmec sites only from La Venta.³ I believe that the term "stela" should not be used in future when referring to Stelae 1, 2, and 3 from La Venta, and, as well, to the pieces now known as Stelae A and D from Tres Zapotes. No alternative name is suggested since this should be done by whoever makes a general study of Olmec sculpture.

STELA 3

Stela 3 (pl. 1) from the La Venta site is a massive block of dark gray porphyritic basalt which was secured from the Tuxtla Mountains that lie about fifty miles to the west (Williams and Heizer 1965:18, maps 2, 3). It stands 14 feet high, 6.6 feet wide, and 3 feet thick, and weighs 26 metric tons. It was first seen by Stirling in 1940, lying face down just to the west of the centerline of the La Venta site, and within the rectangular shaped basalt-column enclosed "court" or plaza which was clearly the area of the site where the most important rituals were performed. Stirling removed the enclosing soil, and the earth below the sculptured face was dug away so that the great slab could be supported on posts in order for it to be photographed from below. The 1940 photographs (Stirling 1943a, pl. 35) were taken with a wide-angle lens from a distance of about six feet, and the perspective was severely distorted. Drucker (1952, fig. 50) published a drawing of the sculpture which was incomplete and inaccurate, since it was based on the 1940 photographs. The same deficiency holds for the otherwise excellent drawings of the stela published by Covarrubias (1946b, pl. 4; 1957, fig. 27). In 1955, Drucker and I, with the aid of a D8 bulldozer loaned by the Pemex Company, were able to set the stone upright, and this permitted undistorted photographs (Drucker, Heizer and Squier 1959, pl. 55) to be made, as well as providing for the first time the opportunity to study the sculptured surface (pl. 1) with comfort and in detail. In our report on the 1955 excavations, we were able to provide a reconstruction of the original scene (*ibid.*, fig. 68), but further study has encouraged me to make some changes and to present here (fig. 1) a revised version. This second reconstruction is not alleged to be accurate or authentic, but merely a conjectural recreation of the original sculpture.

The low-relief sculpture is incomplete due to exfoliation of portions of the surface. While many of the stone sculptures at the La Venta site have been deliberately mutilated, it is my opinion that the imperfections of Stela 3 are not due to the hand of man but to natural weathering. After the La Venta site had been abandoned by its builders, succeeding groups of occupants farmed the soils of the area. Large monuments that protruded from the surface offered convenient spots on which to pile cut trees and shrubs that were to be burned after they had dried out. The occasional and repeated heating and cooling of the stone monuments over a period as long as 2500 to 3000 years would seem to have been the major cause of the splitting off of pieces of the large stone sculptures. This is clearly evidenced along the upper left edge of Stela 3, where the absence of any tool marks along the edges of the major breaks is a good indication that the fractures are thermal rather than manual.

What is the meaning of the composition that is portrayed? Two elabo-

rately costumed, life-sized individuals face each other and are presumably engaged in some kind of parley. (Hereafter the individual on the left will be referred to as L; the individual on the right, as R.) Whether this is a peaceful meeting of two local priests or political leaders, or a confrontation between two enemy leaders, we cannot say. Both are equipped with unusually complicated examples of headgear of a kind that would be ill-suited to wearing in hand-to-hand combat, so we may assume that the men are leaders or priests who have dressed themselves for a pacific encounter. Scenes of war are not typical of Olmec art, and while "war clubs" are at times depicted (Coe 1965b, fig. 49), we cannot really be certain that these flat, pointed, or angled-end instruments were weapons, or, alternatively, whether they may have been staffs symbolizing authority. (What are apparently warriors armed with long spears, shown on Monument C from Tres Zapotes, may date from a later period than La Venta [*ibid.*, 773].) Individual L in Stela 3 holds in his right hand a thin, flat, squared-end piece that has been called a club, but which could with equal plausibility be interpreted as an agricultural tool or a scepter or staff symbolic of special office.

That the two central figures, R and L, are merely elaborately dressed personages seems obvious. Their faces, or as much of them as we can now discern, are those of ordinary men. Each stands five feet, seven inches tall, and each is dressed in a different manner. Person L wears a waist-to-mid-thigh skirt or kilt⁴ that is supported by a wide belt with an elaborate buckle. His bare chest is adorned with an elaborate pectoral, perhaps of carved jade, hung from an upper piece bearing pendant beads. Whether this pectoral is suspended from a collar or is strapped to the chest cannot be determined. His upper arms each bear a flexible band that holds down a rectangular ornament. L wears a cape with a flared lower edge, and what are apparently closely fitted leather shoes whose tops come to just above the ankles. The cape appears to be a double one, with each layer of unequal length. The face of individual L cannot be seen, and all we can detect is part of the right ear, which seems to be delineated as though it were fully exposed and without ornamentation. There is no hint or suggestion that L was bearded.

Figure R wears a somewhat shorter but no less elaborate headdress, which is held in place by vertical guides running down the cheek and attached at the bottom to a fitted chin strap, in front of which is affixed a pointed beard. This beard may be natural, with the chin strap running underneath it, but more probably it is an artificial beard. A circular depression marks an expanded ear lobe opening for an ear spool, and this hole seems to be cut through the flat piece which drops from the rear part of the base of the headgear and then bends to curve across the top of the chest to provide support for the headdress. Attached to this lower brace is a human trophy skull which rests on the upper chest. The perspective here is that of a profile of

the headgear, face, and supporting features projected against the full-front view of the torso and profile view of the legs. This posture is classified as category I-A1 by Proskouriakoff (1950:19, fig. 7), and in her study of Classic Maya sculpture (*ibid.*) is said to be "typical of the earliest [Maya] monuments." There are not known at present any Maya sculptures of this kind that can be dated with confidence as equivalent in age to Stela 3 from La Venta, which may be as old as 1100 B.C. or as young as 800 B.C.

The six small human figures which occur on Stela 3 have been termed by Kubler (1962:68) as "chubby were-jaguars [which] float above," and by Coe (1965b:752, 773) as "sky gods" or "rain gods" who are "shown flying through the air carrying weapons," engaged in what may be a "war in heaven." I am doubtful of this interpretation, and prefer to view these smaller sized persons merely as earthbound individuals of lesser rank who are the attendants of the two principal persons (L and R) who dominate the composition. The poor preservation of the dress of R and the face of L makes nothing more than a guess the suggestion that individual L is the representative of a non-ear ornamenting, leather shoe-clad group, and that individual R is typical of a different societal unit recognizable by the wearing of a round bead attached to the nasal septum, a false beard, a large ear spool, and lack of footgear. Person R may possibly be connected with water, since his headdress prominently displays a fish, and above him, lying horizontally on their backs and facing up, are two probable aquatic saurians that look like alligators, one of which has the rattles of a rattlesnake at the end of his tail. There are two possible interpretations of these double (man plus saurian) figures. They may either represent an animal shown to indicate that the person was affiliated with it, or they may be figures (actual or models) which are carried on the backs of the persons. I cannot choose between the two possibilities, but think that the second is more probably the case. I do not press the interpretation that R and L are from different ethnic groups. They may simply be two Olmec priests, both from La Venta, or one from La Venta and the other from one of the other Olmec religious centers such as San Lorenzo.

It can be suggested (but not proved) that R is an Olmec and L an outsider. Person R stands before the inverted U "arch" that is so characteristic a feature of Olmec sculpture. It is probably intended to be the muzzle or upper jaw outline of a jaguar (Drucker 1952:200), and is often represented with a human figure emerging from the opening, as in Altars 2, 4, and 5 at La Venta (Stirling 1943a, pls. 37, 38, 40). The fact that individual R stands immediately in front of this "arch" suggests that he is a La Ventan. While wearing of large ear spools and false beards is known to be an Olmec decorative feature, we cannot affirm that these were exclusive to Olmecs (cf. Vaillant 1931; Drucker 1952:196). It should be noted that to the left of L's shoulder is a smaller kilted figure who matches L himself in

this article of dress, while most of the other smaller figures are wearing breechclouts.

C. Cook de Leonard (1959:339) says that Stela 3 appears to represent the marriage of an Olmec woman (our L) and a foreigner (our R) with different features. The "man-tigers" float above and consecrate the union, which may be the establishment of the first Mesoamerican dynasty. Here I can only say that we differ on the gender of L, and that I fail to see any evidence of this as a nuptial scene, or that the superior figures are engaged in bestowing their benediction.

The interpretation suggested here is that two important people, who may be either priests or chiefs, one (R) from La Venta and the other (L) from a neighboring region where dress is somewhat different, are meeting, though whether in friendship or hostility we cannot say. I admit to having leaned heavily, perhaps unduly so, on my reconstruction and thus have emphasized differences which cannot be demonstrated. The alternative is that we are looking at a depiction of an event where two principal persons from La Venta are engaged and that except for minor details they are dressed in a very similar way.

Careful layout and planning were clearly involved in this sculpture. Because La Venta art is religious in its theme and intent (Heizer 1962), we may assume that the sculptor was instructed in precisely what was wanted by the priests in charge of the ritual center. The spatial limitations imposed by the stone surface to be sculptured forced the stone carver to distribute the individuals accompanying R and L (whether soldiers, guards, acolytes, lesser priests, or something else) in the remaining open area. He made efficient use of the available space, since he was able to represent six individuals and two animals there. There is a rather greater impression of movement or bodily activity in the six smaller figures than in the two larger individuals, R and L. This impression is caused in part by the fact that the positions of the smaller individuals are rotated variably through a ninety degree arc from the vertical in order to occupy the available space. Their knees (or at least those knees we can see) are more bent than those of individuals L and R, so they may be engaged in dancing or walking. It is suggested that rather than "flying" or "floating," or being engaged in a war, heavenly or terrestrial, they are simply turbaned attendants of one or the other major person (L and R) who has come to the meeting, and that they are placed in the background (i.e. behind) the principals. The sculptor may have attempted to depict in this single scene a series of quite specific ideas. Note, for example, that above and to the right of individual R there is a "club"-carrying, monster-visaged figure who is strongly reminiscent of similar figures on Stela 2, and that he is, so far as we can tell, unique in the group. Is he the spiritual protector of individual R? Directly over

the top of the headgear of R are two pairs of closely associated figures, each couple comprising an ordinary human behind whom is an animal having, as already suggested, mainly saurian features. One may suppose that these two men are saurian-connected priests and that their presence at the ceremony is intentional and meaningful. The left hand held flat on the chest appears at least twice, and the semi-extended right arm is present three times. While we may assume that the extended right arm and hand is pointing to something, it seems to me more probable that the position of the two arms may be intended to represent a formal gesture, such as a body posture while dancing, a pose adopted while attending a meeting of important hierarchical persons, a gesture of greeting, or any other of a number of guesses, all without foundation. The iconography of La Venta sculpture remains purely a matter of speculation, in my opinion. Coe (1965b), Cook de Leonard (1959), Schaefer (1948), Stirling (1943a, 1965), and I, to some extent here, have suggested various interpretations.

STELA 2

Stela 2 from La Venta was first described in detail by Stirling (1943a: 50-51), but had been seen and named earlier by Blom and La Farge (1926:I:85). It is a low relief sculpture applied to one face of a large, irregularly flattened face of an untrimmed slab of petrographically distinctive ~~basalt~~ (Williams and Heizer 1965:18) whose source, like that of Stela 3, was the Cerro Cintepec in the Tuxtla Mountains. It is 12 feet high, 6.75 feet wide, and 18 inches thick. Its weight is calculated at 10.5 metric tons.

In 1955 our attempts to secure detailed photographs were unsuccessful, partly because of the position in which Stela 2 then lay, and partly because much of the carving has been worn and rounded to the extent that detail has been lost. The photograph which appears here (pl. 2) was taken in 1963 by Miss Tillie Smith. There is no evidence of deliberate defacement by battering or smashing on the piece; the worn condition appears to be natural. The one area which may have been deliberately erased is the face of the individual in the upper left. The face area is worn so smooth that it contrasts noticeably with the well-preserved relief above and below this area. I believe that Drucker's sketch (1952, fig. 49) is the most complete version that we can hope to get, although it contains some errors which I have attempted to correct in the sketch shown in Figure 2. (For other illustrations see Covarrubias 1946b, pl. 3; 1957, fig. 28; Pellicer 1961, fig. D; Stirling 1940a:321; 1943a, pl. 34; 1943b:324.) The sculpture now stands in the Parque La Venta at Villahermosa, Tab., exposed to the weather, and in noticeably more worn condition than when first fully uncovered by Stirling twenty-five years ago. It is partly because of the damage and progressive deterioration to which most of the La Venta monuments are subject (despite the sincere efforts of the INAH

caretakers at the Parque) that I believe it is important for detailed records of the sculptures to be made while this is still possible. The original surfaces of all of the La Venta stone sculptures have been somewhat "softened" after 3000 years of contact with the highly acid soils, and this altered surface is subject to wearing away if it is exposed to the rain and sun. Lichen now covers most of the surfaces, and the monuments are also subject to vandalism by unappreciative visitors. It would be far better to protect these in some enclosed, or at least roofed, housing. Such care is surely warranted in view of the fact that these are among the most ancient of all known pre-historic Mexican sculptures and are therefore infinitely precious since their numbers are finite.

There is a strong similarity between the scenes depicted on Stela 2 and Stela 3. We are immediately aware of the life-sized, highly costumed person who occupies the central position. He stands in full-front view with both feet planted on a horizontal base line (now almost wholly removed by erosion). His headdress, held on with a chinstrap, is large and elaborate, as is true of the headdresses of persons R and L on Stela 3. On either side of the central person—who is probably a high priest (or chief or lord or king)—are ranged vertically three standing or kneeling smaller figures, whose counterparts occur in the six individuals attending R and L on Stela 3. The head person in Stela 2, like R and L in Stela 3, stands solidly, statically, and dominating, as though his mere presence is warrant enough for his predominance.

I quote here Stirling's (1943a:50-51) excellent description of Stela 2, adding my own corrections or additions in brackets.

This large stela represents a standing male figure in half relief. The lower part of the design is mutilated [eroded], but evidently the toes point outward. Diagonally across his chest the figure holds a staff, the handle [shaft] of which is grasped with both hands. From the upper end a tassel-like ornament hangs over the right shoulder. Behind the shoulders and back is a circular object, possibly a shield with ornaments hanging on either side of the hips [this appears, rather, to be a back cape, not unlike the one worn by individual L on Stela 3; I do not think that it is a shield: from its lower edge on each side hang three triangular elements which are apparently pendant ornaments]. Bands are worn around the wrist and ankles. In the ears are circular ear disks, and on the head is a remarkable tall and elaborate headdress, the extreme upper part of which is mutilated [eroded away]. The headdress seems to be held in place by means of a chin strap.

In the spaces on either side of the central figure, carved in low relief, are six crouching, barefooted figures, three on each side, one over the other. All six appear to be brandishing axes or batons [staffs]. Each of them wears a broad belt, circular ear ornaments, and a headdress fastened by means of a chinstrap. [The smaller figures often have on their backs a circular cape with a notched edge. The left hand smaller individuals consistently display this circular cape behind their left arms and a multi-element tiered (or pleated or ruffled?) pendant decoration below the bent elbows of their right arms. This 'cape' and the pendant elements may, of course, only be an ornament attached to the lower rear edge of the headdress. Between the thighs of the smaller individuals can be seen a flat, apparently free-hanging piece which may be part of the 'cape,' or a front plaque or sash such as that worn by the central figure.] The three figures at the observers left are better preserved than the ones on the right. Their faces are like anthropomorphic jaguars with projecting fangs. All of these figures [including the uppermost one at the viewer's left, despite the drawing in Drucker 1952, fig. 49] are looking to the right [their faces are shown only in right profile], the first group [left hand] looking backward over their shoulders in order to do so. The face of the central figure, although somewhat worn, is 'La Venta' in type, and the expression is one of serene dignity. [The central figure's beard seems to be a real set of chin whiskers rather than a false beard of the kind attached to the chinstrap of individual R on Stela 3.]

Judging from the erosion of the stone, the monument had fallen in such a manner that the right side became buried, leaving the left side exposed for a longer period....

It seems to have been carved from a naturally formed slab of stone, which had a smooth but irregular surface. Not much attempt was made to level off these irregularities, and the carved designs follow them over the surface.

There are some interesting parallels and differences between the composition and layout of Stela 2 and Stela 3. Whereas only two of the small

individuals on Stela 3 carry a staff, all six of those on Stela 2 hold these instruments. The way in which the staff is grasped and its position diagonally across the chest and over the shoulder are the same in every instance on both stelae.⁵ The staff, therefore, appears to be a ritual object which is held in a certain position, and this seems to support the proposition that some ritual performance is being portrayed. Why all seven persons on Stela 2 carry staffs and only three (individual L and the smaller figures immediately over and above R's shoulder) do so on Stela 3 is something for which I cannot suggest an explanation. Other duplications between Stela 2 and Stela 3 include the back cape, the large and elaborate head-dresses of the principal individuals which fill a considerable space, and the body postures and turbans of the smaller individuals. Note also the presence on each stela of six small sized individuals. There is no ready answer to the question of whether the presence of six lesser persons on each stela is accidental (as though there was available space for this many and no more) or deliberate (as though it was a manifestation of a sacred number, or that in the operating culture there were six attendants to the head priest). One of the smaller figures on Stela 3, which has been suggested as being the "spiritual protector" of individual R, and his counterpart on Stela 2, may be the standing (or walking) smaller middle figure on the right side, he being the only one not depicted in the bended knee posture.

We can conclude that the similarities of the scenes and ways of representing persons are so abundant that the two sculptures must depict essentially the same kind of event, or affirm the same kind of interpersonal relationship between the larger central figure (or figures) and the smaller individuals who surround him. Whether the depiction was intended to memorialize a specific person (or persons) on some particular occasion, such as accession to office, or as a tribute to his memory after his death, we cannot guess. C. Cook de Leonard's theory that Stela 2 represents a marriage is possible (notwithstanding my declining to accept this), and so are any number of other suggestions. We would have to know a great deal more about Olmec culture and sculpture than we do now to make any such proposals more than conjecture.

That careful consideration was given by the sculptor to utilizing available space on the stone seems obvious. The scene on Stela 3 is a busy one, but there are enough blank areas to allow each of the eight human figures, as well as the two "saurians," to be distinguished without difficulty. The position and size of the six humans above individuals R and L can probably be accounted for by invoking two familiar principles of ancient art. The first is the depiction of individuals of lesser social rank in smaller size, not because they were actually smaller but because they were less important. This practice is well known in Egyptian (W. Smith 1958:17; Janson and Janson 1957, pl. 32), Assyrian (Contenau 1954:133, 236), and Maya (Lothrop, Foshag and Mahler 1957:26) art. The second of these is the device of representing objec

in the background in the upper part of the composition. This, as Lothrop (1952:51) pointed out when defining the perspective on the gold disks from the cenote at Chichén Itzá, is not our "linear" or "aerial" perspective, but is "comparable to the isometric projections or geometric elevations traditional in our architectural drawing today." A similar technique is employed in Egyptian (Read 1917:147-148) and Assyrian (Contenau 1954:236; Parrot 1961:14) sculpture. Kubler (1962:37, 203, pl. 6, fig. 70) discusses and illustrates this kind of attempt to achieve depth of pictorial space in wall paintings at Teotihuacán and Chichén Itzá. It is this same contrivance that seems to have been employed in the scene portrayed on Stela 3 from La Venta. That the smaller and higher figures were placed behind the larger lower ones seems clearly indicated by the left hand of the figure just to the left of the top of the headdress of individual L.

On low relief sculptures from La Venta there was a tendency to plan the design layout to accommodate to the natural shape of the stone. This is clearly apparent in Monument 19 from La Venta (Drucker, Heizer and Squier 1959, fig. 55), and can be seen on other examples, including, in my opinion, Stela 2.

Another matter concerns perspective, or what Coe (1965b:749) calls utilization of "space to give three-dimensional depth to bas reliefs" (cf. Westheim 1965:168). This was accomplished, he believes, by "establishing a tension between forms." I confess that I do not know what Coe means by this, nor can I see it in Olmec art as illustrated by Stela 2 and Stela 3. Both of these sculptures seem to me to be fairly simple, straightforward, and untense portrayals, although it is true that the flatness or static quality of individuals R and L on Stela 3, and of the central figure on Stela 2, contrasts with the impression of movement and activity of the six smaller figures that are present in each composition. Any composition has "tension" in it; if it did not it would be infinite in its dimensions. If Coe sees as tension the spacing of the figures, or the bodily activity and postures of the individuals shown on Stela 2 and Stela 3, then that can best be left (as no doubt much of what I have written here) as an impression of what he sees.

A dramatic moment in some historic event or episode may be the original inspiration for the scene shown on Stela 3, and I would prefer to characterize the composition as analogous to a still photograph, where the persons present are shown in action at the instant the film is exposed.

Figures 4 and 5 attempt to indicate that there are two dynamic factors or "forces" involved in the composition of Stela 3. One of these is "centripetal" and this brings the viewer's attention to the focal center at the midpoint of a line drawn between the eyes of the central figures, R and L, by following the line-of-sight of the six smaller individuals (fig. 4). The

other dynamic force is "centrifugal" or "radial," and this is effected by placing the legs and feet of the eight figures at, or aimed at, the outer boundary of the stone (fig. 5). The vertical rising sides of Stela 3 help to force the movement upward to the point where it is released and radiated out via the legs of the upper figures. The curved top of Stela 3 reinforces this radial tendency, and it is probably not wholly accidental that the stela takes this form rather than the more typical angularity of most La Venta monuments. I prefer to see Stela 3 as a dynamic whole, successful as a result of carefully contrived line and use of space, rather than impressive through the creation of "tension between forms."

Stela 2 is similar but not identical. Figure 6 is an effort to show that the "centrifugal" or "radial" force is present, but is effected not so much by the outward pointing of the legs and feet of the figures as by the angle at which the staffs are held by each individual. If the eye picks up one of these, it is carried right out to the edge of, or beyond, the sculpture, and the total effect of seven such lines is such as to make this impression of centrifugality a most positive one.

Another difference between Stela 3 and Stela 2 is to be seen in the vertical (or near-vertical) or "gravitational" main orientation⁶ of the bodies of all seven individuals (shown in fig. 7). The body axes in Stela 2 point down like plumb-bob lines. A distinctive feature of the line-of-sight of the six smaller individuals on Stela 2 (the large central figure is "neutral" in his forward gaze) is that everyone is looking to the left, even though this required swiveling the heads of the three figures on the left so that they look over their shoulders. Whether the intent is to show a convention of ritual posture which demanded that attendants of lesser rank avert their gaze and present only their profiles when in the company of the high priest, we do not know. If this explanation does account for the uniformity of the line-of-sight of the six small figures on Stela 2, it may have been done because it was more important to indicate this gesture in a permanent record than to orient to the focal center the lines-of-sight of all persons present, as portrayed on Stela 3 for aesthetic reasons. Pursuing this line of reasoning, one could suggest that a different ritual is being depicted on each stela—one of these (as on Stela 3) requiring the averted glance, and the other (as on Stela 2) not demanding it. What has earlier been suggested as a ritual posture in Stela 3, expressed by one arm (either right or left) held to the chest and the other partially extended (see fig. 5), may have been the significant gesture required for the rite being portrayed in that composition. The way in which the six smaller figures on Stela 2 grasp the staffs can also be taken as a fixed, patterned, ritualized method of holding these objects. The unusual bended-knee position of five of the small figures on Stela 2 may be still another ritual posture.

DISCUSSION

Olmec sculpture, except for certain standardized forms such as one group of the massive table-top "altars" and the colossal heads, can be characterized as unpatterned, in the sense that most of it consists of individual works. The tendency to formal patterning that one sees in Classic Maya stela sculpture (cf. Proskouriakoff 1950:180; Thompson 1950:18-19) is not typical of Olmec large sculpture (with the exceptions noted above), and one senses that the art form had not arrived at a fixed, stable, formally patterned "dogmatic" stage. It is partly because Stela 2 and Stela 3 from La Venta are so different that one may suppose in each instance that some quite particular event or situation involving actual persons was being depicted. At the same time, the two scenes show so many similarities that one may also suggest that the same sculptor carved both blocks of stone.

The idea of a master sculptor—a man with apprentices to aid him in the actual work—who, in the period of his greatest productions was responsible for executing Stela 2 and Stela 3 does not seem to me farfetched or implausible. When we consider that the stones for Stela 2 and Stela 3, now weighing respectively 26 and 10 tons at a minimum (and rather more before being sculptured), had to be transported from the Tuxtla region, we realize that this must have involved a large number of men and substantial transport aids (i.e. sledges and bridged canoe-barges). Large scale transport of this sort in all probability could only have been done with organization and direction (cf. Heizer 1966), and the considerable number of multiton sculptures at La Venta shows that this site was a focal point for receiving imported stones, and for engraving and placing them in the ceremonial precinct when they were completed. We have at La Venta a sculpture center, and it is not surprising to find that there is evidence of great virtuosity in many of the monuments. The duplication of certain kinds of sculpture (e.g. colossal heads, of which there are four; table-top altars, of which there are six; cross-legged seated humans, of which there are at least four; "stelae," of which there are two; and a score or more of large individualized pieces) may be an indication that there were several "schools" or "workshops," each with its master and pupils, at the site. Attractive as this suggestion is in providing an explanation for the duplication of some forms of sculpture, we cannot press it too far. We do not know how long a time span is represented by the totality of monumental sculpture, and therefore cannot choose between the alternatives of (1), a number of sculpture workshops existing and producing concurrently; and (2), a succession over time of different kinds of sculpture which were in vogue for a time and were then replaced by another form.⁷ Even though we are unable to choose between two such alternatives (among a larger number that could be suggested), we need to think about such possibilities, for it is by finally being able to reach decisions on such options that we will understand what was going on at the site. In the larger reference frame

of Olmec culture, we need to understand why there is such a concentration of stone sculpture at the La Venta site; why there are four colossal heads at La Venta, six at San Lorenzo, and one each at Tres Zapotes and Nastepe; why table-top altars with human figures seated in the niche or portal on the face are abundant at La Venta and rare at San Lorenzo, etc., etc. Was La Venta, unique among known Olmec sites in its size, layout, huge pyramid, mosaic "masks," buried pavements, and wealth of jade offerings, among other things, also a religious capital? Was it a kind of first millennium B.C. Vatican, where the high priests of the larger society resided, where the most important of the nation's rituals were performed, where the religious wealth was concentrated in buried offerings—making it thus the national treasury—and where was maintained, through the bounty of peasant tithes, a large priesthood, corps of technologists, and public-supported sculpture workshops? We do not know the answers to any of these questions, but the mere existence of the material wealth at the La Venta site requires that they be asked.

Coe (1965c:122; 1967:128) has questioned my proposition (Heizer 1960; 1961; 1963) that the Olmec society was theocratically organized, and appears to be inclined to the alternative interpretation that the society's leaders may not have been priests but "secular lords who drew their power from lineage and from conquest." In fairness to Coe, it should be admitted that some propositions made by me in this connection have had to be amended as quite unproven (Drucker and Heizer 1965), but none of these recantings concern the earlier or present interpretations of the identification of the principal persons on Stela 2 and Stela 3 as ritual leaders of high authority, or the probability that there is depicted on these monuments scenes that are heavily loaded with ceremony and ritual. Whether we call the La Venta leaders "priests," "kings," "secular lords," "priest-kings," or whatever, is a matter of choice, and to me it still seems that the best interpretation of the available data is to view La Venta as a ceremonial center, a place where important organized ritual was performed, and where the head people were religious leaders. I do not insist that I am correct in this view, and say only that we probably now control enough information for the southeast Mexican Olmec area to permit some fairly sound conclusion to be reached in this regard.

I have now come to the end of this brief examination of two of the large sculptures from the La Venta site. What has been suggested will no doubt be considered as very amateurish by art historians, who, by their training and experience, know the rules, principles, and terminology for such analyses. Thus far the art of La Venta has not been seriously studied by competent art historians, and it is much to be hoped that while the sculptures are still in sufficiently good condition to examine, this will be done. Proskouriakoff (1958:29) argues that "the critical study of art is not for the archaeologist

[to do]," and this is probably true. On the other hand, an art historian who knows little or nothing of the extra-esthetic aspects of the culture whose art he analyzes is scarcely in a position to provide conclusions that will be of very much assistance to the archaeologist. Apparently what we need, in order for all parties to be satisfied, are either art historians who are competently trained in archaeology, or archaeologists who are competent in art criticism. The student who wishes to explore the possibilities of such a dual approach can begin by reading Spinden's A Study of Maya Art (1913); Proskouriakoff's A Study of Classic Maya Sculpture (1950) and Studies on Middle American Art (1958); Kroeber's Style and Civilizations (1957); Kubler's monumental Art and Architecture of Ancient America (1962), and his shorter papers (1958, 1961); and articles by Kelemen (1946) and Rands (1958).

Notes

1. This does not deny the possibility that some similar stimulus which produced both Chavin and Olmec once existed (cf. Kubler 1962:70-71; Willey 1962).
2. Knorozov (1967:3) is quite incorrect when he writes that there are stelae from La Venta which "show that the 'Olmec' had numerals, hieroglyphic writing, a calendar, and year-reckoning from an initial era of the same character as that of the Maya."
3. This is not to say that true stelae are absent from all Olmec sites. Stela C from Tres Zapotes (Stirling 1940b), while fragmentary, bears glyphs and is probably a true stela. Other pieces (e.g. those labeled Stela A and Stela D) from Tres Zapotes seem more similar to the special kind of sculptured monument evidenced in Stela 2 and Stela 3 from La Venta.
4. Another possibility is that he wears a garment resembling shorts. What may be the same kind of article, which ends above the knee, can be seen in the left hand figures on Stela 2 (pl. 2).
5. It is interesting to note that an Early Classic Maya figure pose (Type I-D1 of Proskouriakoff 1950, fig. 8d) is very similar to that of the central figure on La Venta Stela 2.
6. This is similar to the "main volume axis" principle used by Loran (1950) in his analysis of Cezanne's paintings.
7. Proskouriakoff (1950:3, 5) can discuss Maya sculpture in terms of a tradition which ran for at least ten centuries, and is therefore justified

in assuming that there existed the sculptor's profession. At La Venta we cannot do this because the site stands as only one point in the flow of artistic expression, and we do not yet know the derivation, the period of duration, or the destination of the La Venta art. Kubler (1962:71) writes that "the [Olmec] colossal heads and the jades can have been carved only by professional sculptors relieved of all other work, and maintained by the community."

List of Illustrations

- Plate 1. Stela 3, La Venta. Photo by R. F. Heizer at La Venta, 1955 (copyright National Geographic Society, negative 131280A).
- Plate 2. Stela 2, La Venta. Photo taken by Tillie Smith at Parque La Venta, Villahermosa, Tab., 1963.
- Figure 1. Reconstruction of relief on Stela 3.
- Figure 2. Reconstruction of relief on Stela 2.
- Figure 3. Relief depicted in Plate 2 (Stela 3).
- Figure 4. Stela 3. Internal focal center (⊗) via line-of-sight (→); centrifugal lines of main body orientation (→).
- Figure 5. Stela 3. Stick figures which take the viewer's eye outside the composition ("centrifugal or radial dynamic force") via the legs of the eight figures.
- Figure 6. Stela 2. Stick figures carrying staffs (■) which first lead the viewer's eye out of the composition ("centrifugal force") and then direct it to the internal focal point (⊗) along the base line.
- Figure 7. Stela 2. Vertical or "gravitational" lines of body orientation (→) which orient the eye to the base line (----); and, lines-of-sight (→) of the six smaller individuals.

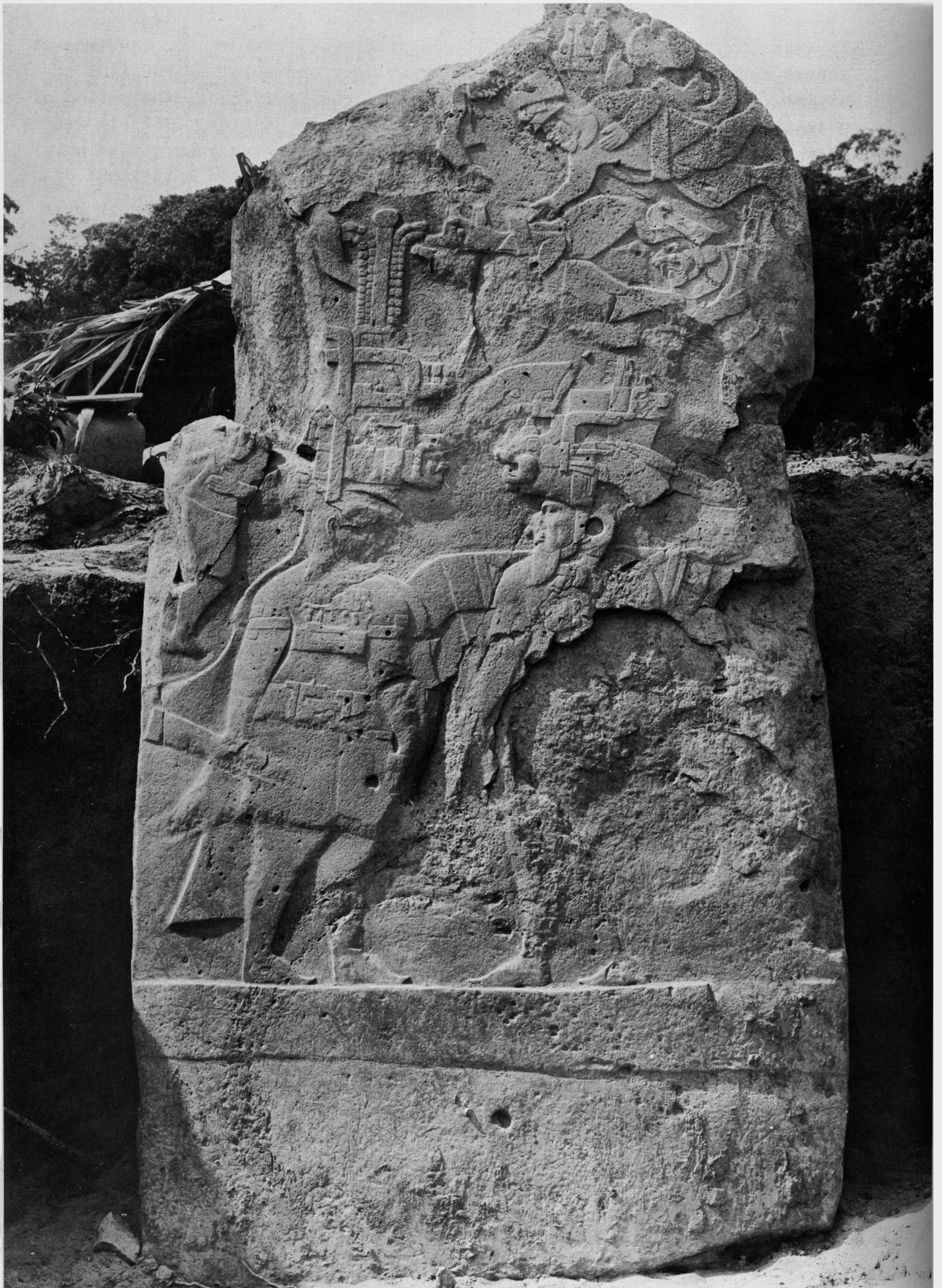


Plate 1



Plate 2

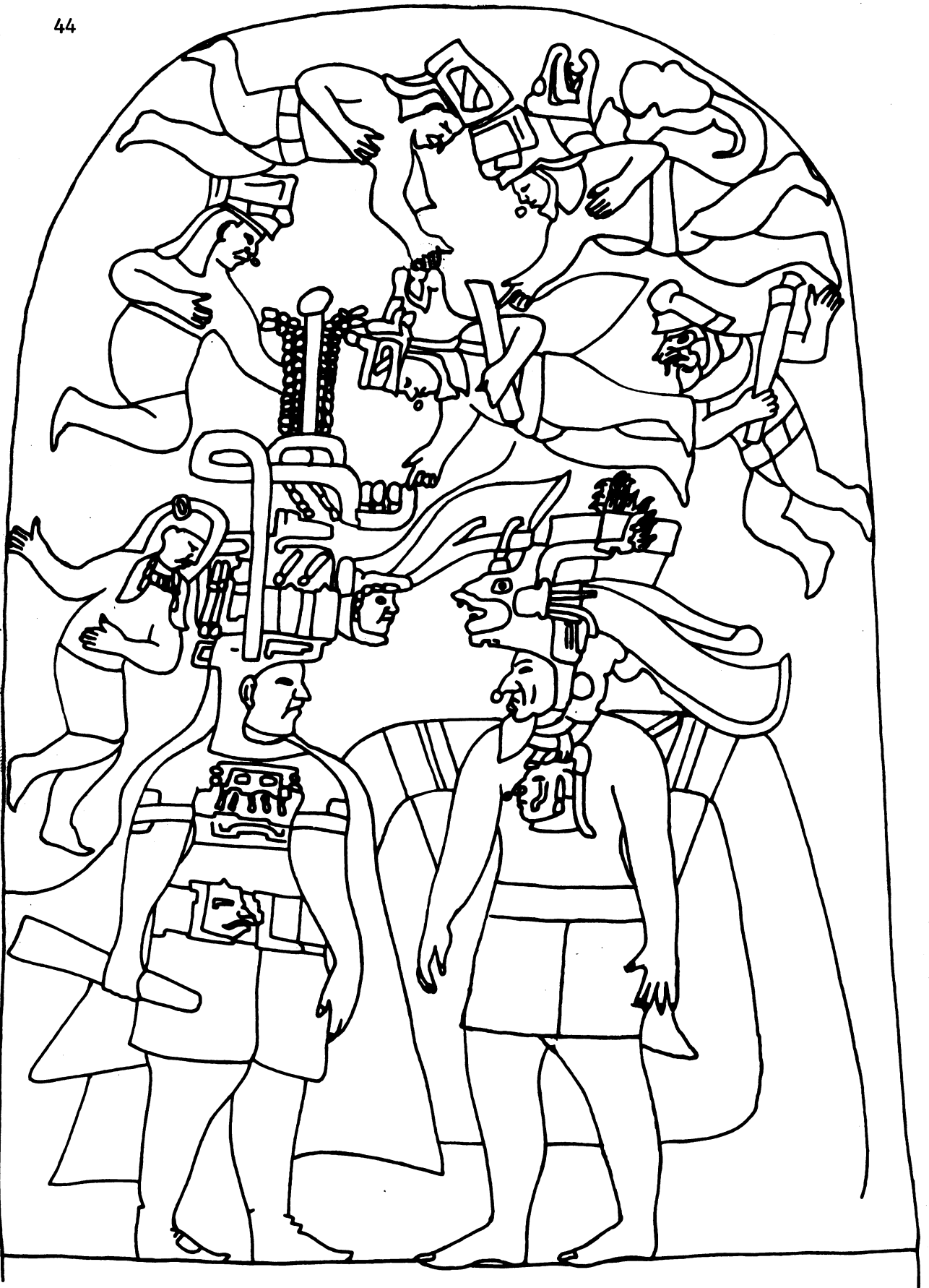


Figure 1



Figure 2



Figure 3

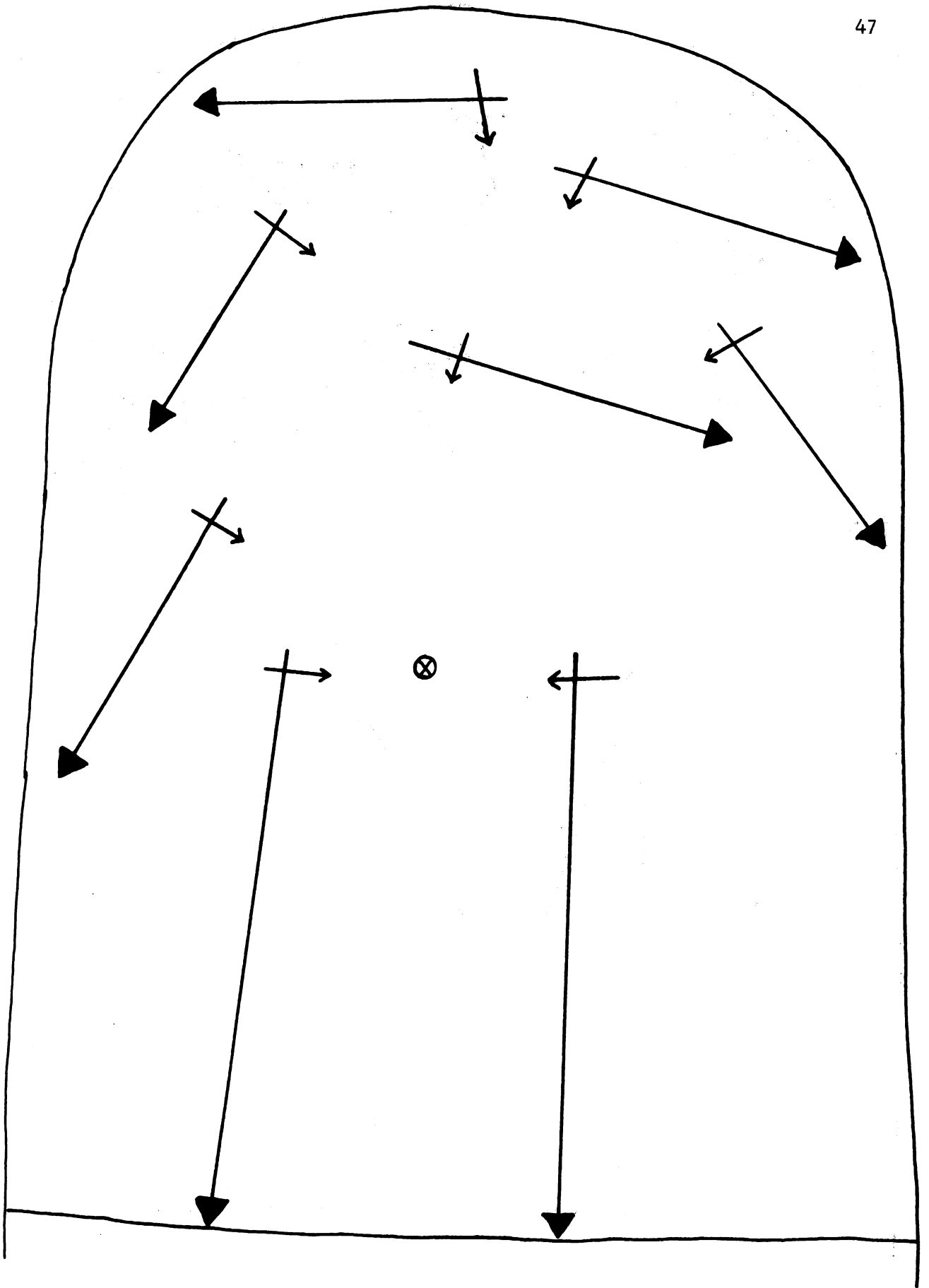


Figure 4

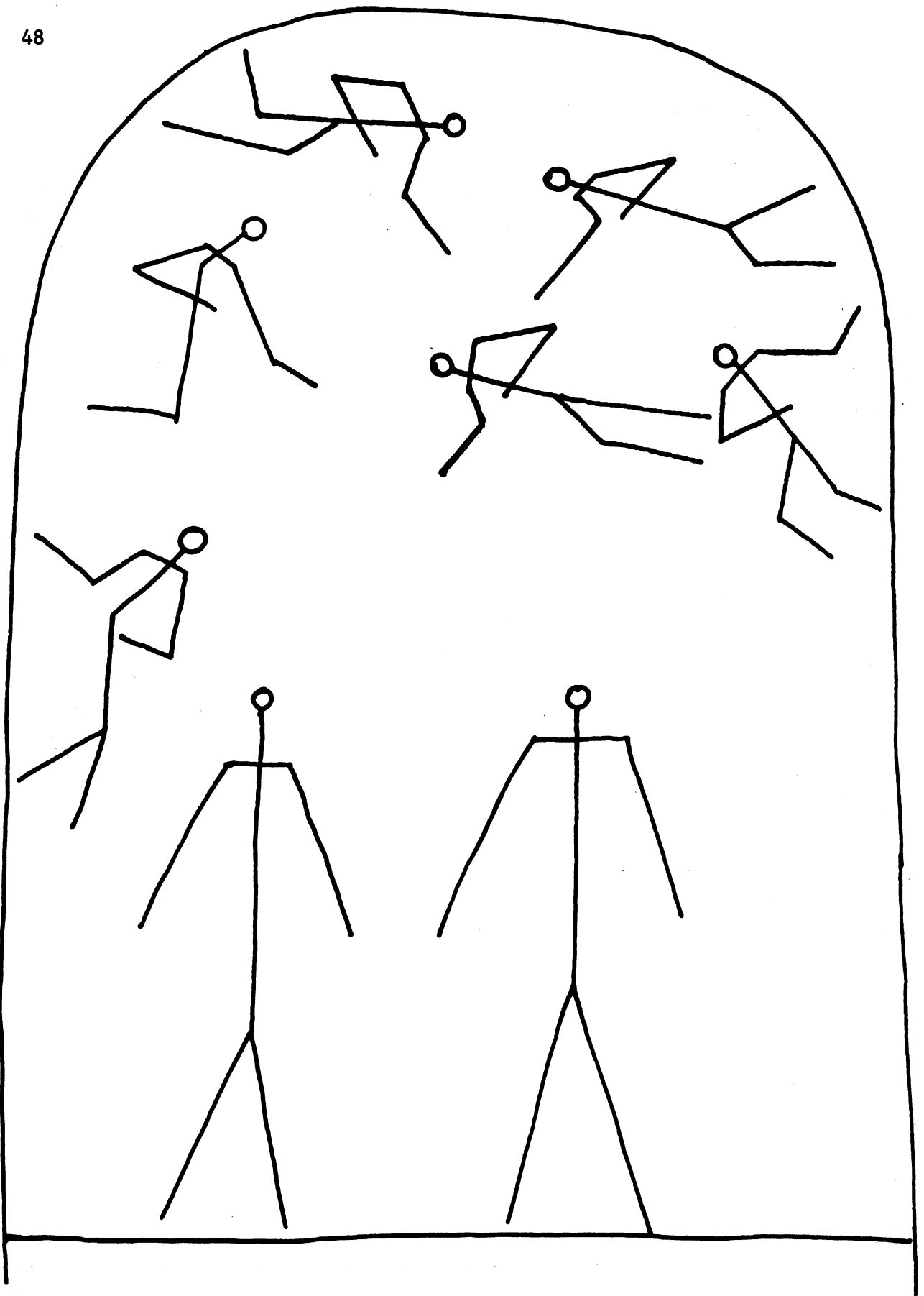


Figure 5

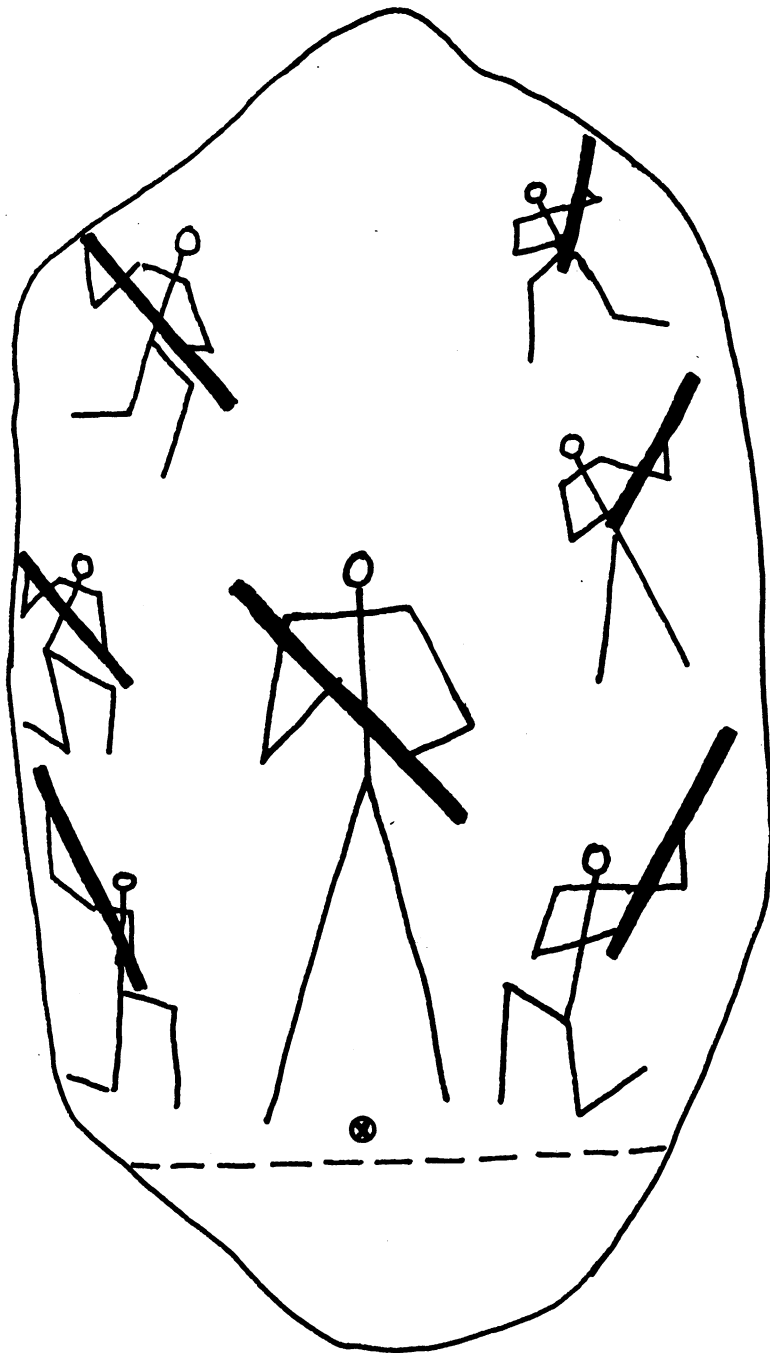


Figure 6

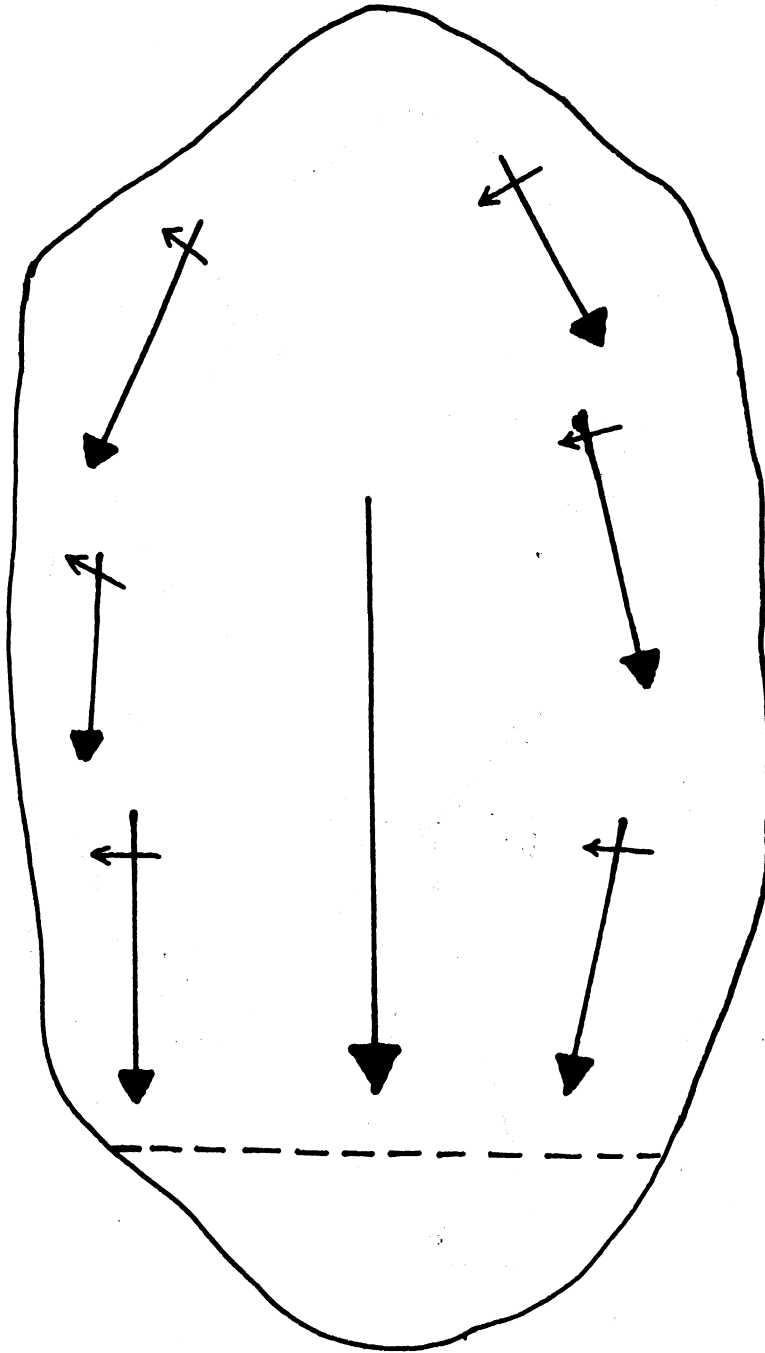


Figure 7

Bibliography

- Berger, Rainer, J. A. Graham and R. F. Heizer
 1967 A Reconsideration of the Age of the La Venta Site. Contributions of the Univ. California Archaeol. Research Facility, 3:1-24. Berkeley
- Blom, F. F. and O. La Farge
 1926 Tribes and Temples. Tulane Univ. Press, New Orleans. 2 vols.
- Coe, Michael
 1965a Archaeological Synthesis of Southern Veracruz and Tabasco. Handbook of Middle American Indians, Vol. 3:2:679-715.
 1965b The Olmec Style and Its Distribution. Handbook of Middle American Indians, Vol. 3:2:739-775.
 1965c The Jaguar's Children: Pre-Classic Central Mexico. New York Graphic Society, Greenwich, Conn.
 1967 Review of film Excavations at La Venta. Amer. Anthrop. 69:127-128.
- Coe, M., R. A. Diehl and M. Stuiver
 1967 Olmec Civilization, Veracruz, Mexico: Dating of the San Lorenzo Phase. Science 155:1399-1401.
- Contenau, G.
 1954 Everyday Life in Babylon and Assyria. St. Martin's Press, New York.
- Cook de Leonard, Carmen
 1959 La Escultura. In Esplendor del México Antigua, Vol. II:519-606. Mexico.
- Covarrubias, Miguel
 1946a El arte "Olmeca" o de La Venta. Cuadernos Americanos, Año V, 28:4:153-179. Mexico.
 1946b Mexico South: The Isthmus of Tehuantepec. A. Knopf, New York.
 1957 Indian Art of Mexico and Central America. A. Knopf, New York.
- Drucker, Philip
 1952 La Venta, Tabasco: a Study of Olmec Ceramics and Art. Bureau of American Ethnology, Bull. 153.
- Drucker, Philip and R. F. Heizer
 1965 Commentary on W. R. Coe and Robert Stuckenrath's Review of Excavations at La Venta, Tabasco, 1955. Kroeber Anthropol. Soc. Papers 33:37-70. Berkeley.

- Drucker, Philip, R. F. Heizer and R. J. Squier
 1959 Excavations at La Venta, Tabasco, 1955. Bureau of American Ethnology, Bull. 170.
- Heizer, Robert F.
 1960 Agriculture and the Theocratic State in Lowland Southeastern Mexico. *Amer. Antiq.* 26:215-222.
 1961 Inferences on the Nature of Olmec Society Based Upon Data from the La Venta Site. *Kroeber Anthropol. Society Papers* 25:43-57. Berkeley.
 1963 The Possible Sociopolitical Structure of the La Venta Olmecs. *Akten des 34 Internationalen Amerikanistenkongresses*, Wien, 1960, 310-317.
 1966 Ancient Heavy Transport, Methods and Achievements. *Science* 153:821-830.
- Heizer, Robert F. and T. Smith
 1965 Olmec Sculpture and Stone Working: a Bibliography. Contributions of the Univ. California Archaeol. Research Facility, 1:71-85. Berkeley.
- Janson, H. W. and D. J. Janson
 1957 The Picture History of Painting: from Cave Painting to Modern Times. Abrams, New York.
- Jones, Julie
 1963 Bibliography for Olmec Sculpture. *Primitive Art Bibliographies* No. 2. Museum of Modern Art, New York.
- Kelemen, Pal
 1946 Pre-Columbian Art and Art History. *Amer. Antiq.* 11:145-154.
- Knorozov, Y. V.
 1967 Selected Chapters from the Writing of the Maya. Peabody Museum, Harvard University, Russian Translation Series Vol. 4.
- Kroeber, Alfred L.
 1957 Style and Civilizations. Ithaca, N.Y.

Kubler, George

- 1958 Discussion of Proskouriakoff's Paper. Pan American Union, Social Science Monographs V, 38-39. Washington.
- 1961 Rival Approaches to American Antiquity. In Three Regions of Primitive Art, 62-75. Museum of Primitive Art, Lecture Series No. 2. New York.
- 1962 The Art and Architecture of Ancient America. Penquin Books, Baltimore.

Loran, Erle

- 1950 Cézanne's Composition. 2nd ed. Univ. California Press, Berkeley.

Lothrop, S. K.

- 1952 Metals from the Cenote of Sacrifice, Chichén Itzá, Yucatan. Memoirs of the Peabody Museum, Harvard University, Vol. X, No. 2. Cambridge.

Lothrop, S. K., W. F. Foshag and J. Mahler

- 1957 Robert Woods Bliss Collection: Pre-Columbian Art. Phaidon Publications, Inc., New York.

Mayas y Olmecas

- 1942 Mayas y olmecas. Mesa Redonda de Antropología. Mexico.

Parrot, A.

- 1961 Nineveh and Babylon. Thames and Hudson, London.

Pellicer, Carlos

- 1961 The Tabasco Museums. Instituto Nacional de Antropología e Historia, Mexico, D.F.

Piña Chan, Román and L. Covarrubias

- 1964 El pueblo del jaguar. Mexico.

Proskouriakoff, Tatiana

- 1950 A Study of Classic Maya Sculpture. Carnegie Institution of Washington, Publication No. 593.
- 1958 Studies on Middle American Art. Pan American Union, Social Science Monographs V, 29-35. Washington.

- Rands, R. L.
 1958 Discussion of Proskouriakoff's Paper. Pan American Union, Social Science Monographs V, 36-38. Washington.
- Read, F. W.
 1917 Boats or Fortified Villages? Bulletin de l'Institut Français d'archéologie Orientale, Vol. 13:145-151. Cairo.
- Schaefer, Claude
 1948 Essai d'interprétation iconographique de la sculpture monumentale de La Venta, Tabasco. Actes de 28th Congrès Internationale des Américanistes, Paris, 1947, 563-564.
- Smith, Tillie
 1963 The Main Themes of the "Olmec" Art Tradition. Kroeber Anthrop. Society Papers 28:121-213. Berkeley.
- Smith, W. S.
 1958 The Art and Architecture of Ancient Egypt. Penguin Books, Baltimore.
- Spinden, H. J.
 1913 A Study of Maya Art. Peabody Museum Memoirs, Vol. 5. (Reprinted under title, Maya art and civilization, Indian Hills, 1957.)
- Stirling, Matthew W.
 1940a Great Stone Faces of the Mexican Jungle. National Geographic Magazine 78:309-334.
 1940b An Initial Series from Tres Zapotes, Veracruz, Mexico. National Geographic Society, Contributed Technical Papers, Mexican Archaeology Series Vol. 1, No. 1.
 1943a Stone Monuments of Southern Mexico. Bureau of American Ethnology, Bull. 138.
 1943b La Venta's Green Stone Tigers. National Geographic Magazine 84:321-328.
 1965 Monumental Sculpture of Southern Veracruz and Tabasco. Handbook of Middle American Indians, Vol. 3:2:716-738.
- Thompson, J. E. S.
 1950 Maya Hieroglyphic Writing: Introduction. Carnegie Institution of Washington, Publication No. 589.

Vaillant, George C.

1931 A Bearded Mystery. *Natural History* 31:243-252.

Westheim, Paul

1957 Ideas fundamentales del arte prehispánico en México.
Fondo de Cultura Económica, México.

1965 The Art of Ancient Mexico. Anchor Books, Doubleday, Garden
City, N.Y.

Willey, Gordon R.

1962 The Early Great Styles and the Rise of the Pre-Columbian
Civilizations. *Amer. Anthropol.* 64:1-14.

Williams, Howel and Robert F. Heizer

1965 Sources of Rocks Used in Olmec Monuments. *Contributions*
Univ. California Archaeol. Research Facility, 1:1-39.
Berkeley.

III. SCULPTURES AND ROCK CARVINGS AT CHALCATZINGO, MORELOS¹

Carmen Cook de Leonard

Editor's note: This paper is a translation, with few emendations, of an article entitled "Milenarias Expresiones de los Mitos del México Antiguo en Cinco Bellos Relieves Esculpidos," which appeared in Novedades (Suppl.) No. 882, 3a, Epoca, Feb. 13, 1966.

We invited Sra. Carmen Cook de Leonard to provide her translation and illustrations because we believe that the record of the cliff reliefs at Chalcatzingo are important, and her drawings and photographs of these the most accurate record yet made.

We are not sufficiently expert in the subject of native Mexican mythology and iconography of codex documents to judge her interpretation of the Chalcatzingo reliefs, and leave this matter to others. Because so much of Olmec culture in its material aspects is Mesoamerican despite its antiquity, we see nothing impossible in interpreting some meanings, actions, and deities in the Chalcatzingo relief sculptures through data of a later time.

* * * * *

Chalcatzingo is a sleepy little town in the eastern part of the state of Morelos, some forty miles beyond the spa resort of Cuautla. One crosses the small Amatzinac River, skirting two archaeological mounds, in order to climb up the hill to the site of the sculptures. Two of these rock cliff relief panels have been known since 1934, when they were published by Eulalia Guzmán. Originally one of the panels was covered by a large rock, probably due to a landslide. In 1953 this rock was dynamited by archaeologists Román Piña Chan and Valentín López, and it was then possible to see the complete group. It is not possible to photograph the group as a whole as there is no space to step back far enough from it, so that drawings are the only means of reproducing it. The panel pictures a ceremony, and is shown here in Figure 1. Another carving (fig. 2), in addition to a few smaller ones, represents the Sun God in the Underworld producing thunder

¹ See p. 67 for end notes.

and rain. Both of these sculptures are identified as belonging to the Olmec culture.

In 1963 there was a discovery of further rock carvings, and a mold of one, and part of another (the upper group in fig. 3), was made for the new National Museum of Anthropology in Mexico City. Due to the haste with which some of the Museum exhibits were installed, this sculpture was placed upside down, making it difficult to recognize if the original is not known. It is true that the sculpture mentioned above (fig. 1) seems to have been removed from its original location by an earthquake, but no others appear to have suffered damage of this sort. Therefore Figure 1 should be published and exhibited just as it stands today.

The carvers of these sculptures made use of certain rocks which presented large and somewhat smooth surfaces. In some cases, it even seems as if certain accidents of the rock had been taken advantage of to express some symbolic element. The carvings discovered up until now are all in the northern part of the great rocky cliff, within the center of a deep ravine (pl. 1), although each image has its own orientation. Because of their position, the sun rarely touches them. Due to the permanent humid shade, the ornamented stones and a great part of the whole mountain have been covered with mosses and lichens in beautiful orange and yellowish-green colors. This adds an ancient mystery to the majesty of the landscape, although the mosses are probably aiding in the destruction of the rock, adding cracks and crevices to the lines of the carved elements. This often makes it difficult to distinguish the original lines. The drawings presented here, therefore, are the result of long deliberation and study. Some first impressions had to be corrected. The trained eye of artist Osvaldo Barra Cunningham was of great help, and I am very grateful for his patience and untiring efforts to correct the original drawings when necessary.

The newly discovered sculptures (figs. 3, 4, 5) form a group in themselves, although they are not too far from the other two large ones. Their dimensions are given with their illustration, and their monumentality indicates that we have three more large works of art to add to the already impressive inventory from Mexico's past.

The "danzantes" of Figure 3 are somewhat smaller than a normal human figure, which permitted the artist who carved them more than twenty centuries ago to leave sufficient space between them to achieve an agreeable composition and free movements of the figures. Never was the Indian artist pressed for space, never did he have to distort one figure in favor of another. There is no doubt that this new sculpture, now presented in photographs and drawings, is a masterpiece of a quality rarely accomplished in later cultures—until possibly the Aztec art, in which the lines again

achieved the freshness and liberty of movement, as well as the technique, of these carvings. But not even there do we find the dynamic lines of this Chalcatzingo sculpture.

We will now describe Figure 3. The same group is repeated in two different positions. Both represent a jaguar apparently attacking a human figure, which flees, his alarm expressed by his raised arms. The jaguars have a ferocious expression, with open fangs and claws extended towards the figures. The upper group is of better design and dominates the scene, not only because of its elevated position, but because it possesses more dynamic movement. The jaguar, especially, has more motion in its extremities. The left forepaw has an exaggerated curve which emphasizes the dramatic situation and justifies the strong expression of the backward-inclined head, which is somewhat more bent than that of the lower right jaguar. The latter seems more rigid—though more realistic—more slender, and the chest is less protruding.

The coats both jaguars wear, as well as their headdresses, indicate that we are not dealing here with two real jaguars attacking two men. On the contrary, the cross over the eyes of both animals identifies them with the solar god. Although it might be argued that it is not necessarily so in the Olmec culture, we are certain of this for the Mayas and other peoples. Even in present times the Huaves of the Isthmus of Tehuantepec, for example, hang this same slanted cross over their altars and call it God the Father.² We cannot imagine that the Olmecs were an exception, especially since other elements belonging to the same complex coincide, and we consider that precisely in the Valley of Morelos, where these rock carvings are to be found, their influence was carried into Toltec times³ and, indirectly, probably even later. They would, then, be the originators of this symbol and of several others mentioned in this paper.

For this reason, and for a better understanding, it is useful to analyze the later forms which the jaguar acquired in other cultures, the possible antecedent of which we see before us. Probably in all Middle American cultures the idea existed that the sun, when setting for the world of the living, would illumine the underworld, the land of the dead, and that the sun also was a dead soul wandering towards the East, in order to be reborn the next day. The House of the Sun, the tonatiuhichan, was located in the East, in one of four underworld caves. Our carving looks towards the East, although on the northern side of the cliff. This dead sun was called Yohualtecuhtli, Lord of the Night. He was related to Tezcatlipoca, the Smoking Mirror, who in turn was a jaguar and had affinities with the Land of the Dead and with the North. As god of the tenth hour of the day, he points to the setting sun, when darkness overcomes light.

There also exists a Jaguar solar god, Ocelotonatiuh, identified with Tezcatlipoca because of the fact that he shares the tenth hour of the day with him. He is the inventor and representative of flowery speech, of song and dance. The scene before us in Figure 3 is represented as a dance. Tezcatlipoca is also Supreme Lord over everything, precisely because he is capable of making Light flee. This sovereignty possibly is indicated by the mask hanging from the headdress of the jaguar on the left in Chalcatzingo, which from Maya glyphs we know as Ahau, the Lord. It is the last calendric sign, with which everything ends, and enthronement begins in another world, in all of the Middle American calendars.⁴

This god is also identified with Tepeyollotli, the Heart of the Mountain, likewise a jaguar, who lives in caves and swallows the daylight Sun, by which act he is converted into the nocturnal Sun. His wizard powers allow him afterwards to be reborn as the young God of Dawn. Chronologically later he is represented with a leg torn off, for which is substituted a smoking mirror. This is explained in the legend in which Cipactli, the Earth Monster, tears a leg off the God of the West. This scene is represented in the Vatican B Codex (fig. 7), where he is identified with the new moon, because he has a limb missing when being born. The New Moon is born in the West, in the evening, for which reason his birth occurs under the auspices of the Lord of the Tenth Hour.⁵

We believe, however, that the deity being born in Chalcatzingo is not the New Moon, but rather the Solar God himself (fig. 4). He is born from a great serpent, later on identified with the Great Blue Fire Serpent, the Xiuhcoatl, which resides in the Northern region, the direction this carving faces. In the beginning we thought that this rock, too, had been moved, but it seems more probable that the tail of the serpent was carried underneath the rock and along the natural curve of the stone to indicate a cave, and the interior of the earth. The photograph (pl. 5) shows this illusion, where the serpent seems to be surging from the earth, while the drawing (fig. 4) follows the contours of the carving without taking into account the curve or other accidents of the stone. It is notable that the serpent of Chalcatzingo has a fin where fish usually have a cartilaginous membrane that covers the gills. This same fin is found on the serpent of the Vatican Codex B (fig. 7). Here, then, we already find the idea of a mythical serpent connected with water, possibly the uterine water, within which the human being resides before being born; another element which is carried over from the Olmec to the codices still in use at the time of the Conquest. Flames can be seen at the base of the head and along the back. From the eye of the monster a ray is directed towards the surging human figure, to the region of his heart. This ray we see as the masculine element within the symbol of the feminine uterus—the monster's belly—giving birth. This interpretation is based upon a common universal symbol which equates the eye

to the genital organs, according to psychoanalytical theories, but based indirectly upon laws and legends which punish violent or illegal sexual intercourse with blindness.⁶

The human figure which protrudes from this serpent is analogous to those shown in Figure 3, and a resemblance, not only of the face and the deformation of the head—seen more clearly in the upper figure—but also a resemblance of the position of the arms. It is as though the deity had traversed the lower regions dancing, and had been born dancing also. The deformed heads of both these beings at first sight resemble an eagle head. It is possible that this resemblance is intentional because the young Tezcatlipoca, the Sun at birth, is symbolized by a rising eagle, the quauhtlehuanitl.

Briefly, then, Figure 4 is the continuity of Figure 3. In Figure 3 the Sun of Night puts Light to flight. The two groups of Figure 3, presented diagonally downwards, indicate the direction in which the figures are moving; that is, towards the lower world. Night reigns. Light is being reborn in Figure 4, after traversing the inferior regions in the form of a jaguar god, now transformed into an eagle god, symbol of the light of day.

It is necessary, however, to consider in this new light the two groups of Figure 3. The lower figure no doubt represents a distance or a new position in relation to the first group, in time and space, and, being the same in essence, has suffered a transformation. I have mentioned the first impression of seeing the upper human being as having an eagle head. The final drawing of the copyist has destroyed this illusion, probably intentionally, since we had discussed it. I have, therefore, included a photograph (pl. 2) taken before chalking in, for a better view of this head. In my original impression, the deformed head forms the beak and the head is turned to the right. In that case, the flame-like object on the head would be on the forehead of the bird-head. I believe this object actually depicts a flame, and could have two meanings: (1) it is twilight, and time to light the fires in the houses; and (2) it is the fire that the Jaguar (Underworld Sun) is trying to take away from the human figure. His reason for chasing it is in order to carry the flame over for the next day, and also to illumine the Underworld. Probably both meanings are acceptable, and the flame is seen again on the back of the monster in Figure 4.

This eagle-headed human figure is found chronologically later as the god One Eagle, a dancer with the same fire-red hair curls on his forehead. He dances before Xochiquetzal in the nineteenth "week" of the tonalamatl (e.g., see p. 62, Codex Borgia). Here two fire drills have been added to the dancer's headdress, confirming the meaning of flame. Three elements have been carried over: the dancing, the eagle element, and the flame hair.

The upper human figure has a shell on a cord around his neck, and due to its later connection with Tlahuizcalpantecuhtli, the God of Dawn, who carries a shell on his headband, it is a promise of rebirth at dawn. The band around his leg is the place where the dancers hang their rattles.

The second human figure, placed lower and adorned with the hornless head of a deer in a turban, could be the later Xochiquetzal, who carries a deer head on her head and bears the name Mazateotl (Codex Borgia, 59). She is the same one seen opposite the Eagle dancer mentioned above, and presides over the third night hour and the Northern region, representing the new moon. Here, again, we find several survivals which permit us to identify these figures: (1) we still find both deities of Chalcatzingo united (now as Xochiquetzal, with the deer head and the Eagle dancer); (2) the deer head has been preserved; (3) the later hour checks with the interpretation of the lower position in the sculpture; and (4) their relationship to the Northern region.

But the deer is the sun, and being on the head of the Moon Goddess can only mean a new moon, when both sun and moon are united in the West and retire into the Underworld together. Here I think it is possible to say that the ears on the back of the head of the jaguar belonging to this goddess are those of a rabbit, because the rabbit is a moon symbol.⁵ We would have, then, an interchange of attributes between the two luminaries, which, to me, is a novel way of expressing copulation symbolically. On page 59 of the Codex Borgia, mentioned above, Mazateotl with the deer head seems to copulate with the Eagle dancer, but, though he does not seem to have a moon attribute, the product, in the form of a child, is seen under them, and three circles twice, which Seler interprets as the third hour of the third day (of the new moon). In Chalcatzingo, the end-product of this copulation would be the birth of the sun child in Figure 4.

Figure 5 seems to be intimately related to these two figures, not only because they are all close to each other—on the same large rock—but because of their orientation. Figure 5 is encountered before Figure 3, due to the formation of the terrain, and so seems to be guarding the entrance to what would be the sacred part. This reminds us of another watcher of a sacred house. It is the legend reported from Chiapas, which now, if I am right, may be considered of Olmec origin. Bishop Nuñez de la Vega⁷ wrote in 1702 with reference to the regent of the third "week" (1.Deer), who is the very same Tezcatlipoca (and probably also the lower human figure of fig. 3), whose sex is interchangeable, or who partakes of both sexes. In Chiapas this deity is called Uotan, "the third pagan of the calendar, the Lord of the Hollow Tree-trunk, which is called teponaguaste (hollow drum). In Uuetan (Soconusco) there is a dark house in which this Uotan produced tapirs with his breath, to watch it (the house)." There is great possibil-

ity for the identification of this animal in Chalcatzingo as a tapir, as it in no way has the same snout as the jaguars of Figure 3. A drawing of a Brazilian tapir is shown in Figure 6 for purposes of comparison, as well as a photograph of the sculpture (pl. 6).⁸

Although this legend from Chiapas does not mention any serpents, other myths and codices speak of this house as the House of the Red and Black Serpents, in the form of pillars, related to the mythical Tlillan-Tlapallan of Quetzalcoatl. It would seem that both elements should be united—tapir and house of serpents—because they probably belong to the same myth complex, as witnessed by the Chalcatzingo carving. These two animals, the tapir and the upright black and red serpents, seem to be repeated in the painting of the Cave of Juxtlahuaca, recently described in Life by Carlo Gay.⁹ The animal he does not identify is similar to the tapir of Chalcatzingo, and is there depicted in a menacing jumping attitude. Close by is the representation of an enormous upright serpent in black and red. These figures are reached before one enters the area of the rest of the paintings. Although this sculpture of Chalcatzingo was once painted, only an over-all red paint can be recognized, and the Juxtlahuaca paintings can thus help us in confirming our hypothesis.

In this series of sculptures in Chalcatzingo, we lack one in which the jaguar is made to flee with dawn. We have taken one from the Vatican Codex B (fig. 8) which represents this event, where the jaguar assumes a very different attitude from the arrogant one in the Chalcatzingo carving. Here, in Chalcatzingo, they are the Lords of All, by their ferocious power as Jaguar men. As a matter of fact, the domination of the North gives authority over life and death because here is the control of the entrance and exit to the inferior worlds, where life is created.

When we observe from afar the site of Chalcatzingo—today called Cerro de la Cantera—it is easy to see the great ravine which separates it in two parts (pl. 1). Possibly its old name, then, was Cleft or Split Hill (Tepexic in Aztec, and similar in other languages), which symbolically represents this entrance to the Lower Regions. Its importance is seen in the headdresses of many Olmec figures and figurines, and axes, sometimes indicated only by a slight cleavage. Figure 9 shows some of these split heads and headdresses represented in different manners, and it is notable that it also appears in the much later representation of Tezcatlipoca of the Vatican Codex (fig. 7). It might also be related to the split tongue of the serpent which we recognize in the headdress of the upper jaguar of Figure 3, and in the serpent of Figure 4, along which the Solar God glides in order to be born. The tapir of Figure 5 also has his tongue hanging out, with the end split in the same manner.

The old gods of Creation had their abode in the Split Hill; it was the place of the ancestors and where the first sacrifices were made. These old gods may be seen in the center of the Split Hill of the North—of a very similar shape as the Tepexic of Chalcatzingo—in MS 20 of the Aubin-Goupil Collection (fig. 10).

Considering all of the above, it seems most probable that the Split Hill of Chalcatzingo was identified with that mythical place, and it might have been the reason why this paradisaical location was chosen by these old Olmec tiger-men. It may have seemed sacred to them, as the place from which all life proceeded and to which everything returned—the beginning and the end—and which they had learned to control.

Figures 1 and 2 have been previously published, but are included here because completely new drawings have been made, using the same method as for the other drawings presented here. The lines were traced with chalk and then transparent paper was overlaid on which the lines were drawn in accordance with the chalk lines underneath. The previous drawings by Eulalia Guzmán,¹⁰ Román Piña Chan,¹¹ and Miguel Covarrubias¹² seem to have been free-hand drawings, and many differences will be noted, some small and perhaps insignificant. Gay also made drawings, not only of the earlier known reliefs but also of the three recently discovered sculptures.¹³

When we made our drawings, unluckily molds had already been made of most of the carvings. These tend to destroy the fine lines, as the method applied uses a synthetic material which sticks to the stone and tears particles out, some of them several inches long. Unfortunately, also, the men sent to do this job were simple technicians with no sense of esthetics and no knowledge about the conservation of valuable archaeological treasures such as these. In several instances, they thought it useful for better reproduction to "correct" the original with a chisel.

Taking into consideration the interpretations of Figures 3, 4, and 5, it might now be said that Figure 1 represents, in a ceremony, the death of the Sun in the late afternoon. It is notable that the last rays of the actual setting sun brighten up this sculpture, and although it has moved from its original position, the movement probably was only downward, and the direction it originally faced is unchanged. All four figures in this sculpture have the same cross on their headdress that the jaguars of Figure 3 have over their eye. We will number the figures 1 to 4, from right to left.

The man on the extreme right (No. 1) has the cross on the mask that hangs from the back of his head. He sits on the ground with legs outstretched, hands bound, with his phallus in erection, held between his arms. He is the

only one that has his face uncovered, and he wears an expression of pain. He has small eyes and nose, but a large mouth, and wears a beard. Some of the details on previous drawings corrected by the tracing method applied by me are: Identification of the resting pillar as a coiled rattlesnake, the rattles being in front of the mask and the head immediately under them. This part of the sculpture seems to have been damaged by another stone, and strong erosion does not permit the complete reconstruction of the snake. The man is more slender and the expression of the face is a little different. The eye of the mask is one of the elements that have been tampered with by the mold-makers. It probably should not be slanted, but should have an elongated oval, as on the other masks and as represented on the previous drawings of Piña Chan and Covarrubias. The ray or horn protruding from the head of this figure may come from his forehead, and the other part may be a headband, or, alternatively, the horn may be part of the mask. This ray is reminiscent of the ray protruding from the eye of the monster in Figure 4.

Facing No. 1 are two men (Nos. 2 and 3) holding digging sticks in a vertical position, provoking the man on the ground to the erection, which he probably helped by masturbation between his arms, this being one of the practical reasons for the binding of his hands. While the man on the ground is naked, the standing men wear breechclouts, belts with buckles, small capes, and elaborate headdresses. The headdress of No. 2 is reminiscent of the rabbit ears on the headdress of the lower jaguar in Figure 3, and would therefore imply a moon symbol. To say that the double crescents on the same headdress are new moons might be going too far, but it happens that two double new moons, or four moons, corresponds to the time of the planting of the corn and the first harvesting in this part of the state of Morelos. The headdress of No. 3 has the split hill motif similar to that of the upper jaguar of Figure 3. They therefore seem to represent the Moon and the Sun, feminine and masculine elements to be united.¹⁴ If this interpretation is correct, it might be said that this is a translation of the heavenly happenings of Figures 3 and 4 into human terms, in order to magically control those ordained by nature.

The fourth man is facing in the opposite direction from the others, and is looking northward. Here, again, we have corrected previous drawings—the objects held in his hands. In his right hand he holds a maize plant, and in his left, an atlatl (dart thrower) which ends in a serpent head. This priest holds in his hands, then, the end result of the ceremony's meaning—maize and meat (from hunting with the dart thrower).

In synthesis, therefore, the man on the ground is invested with both feminine passivity (the bound hands) and masculine activity (the erect phallus), a sort of hermaphrodite similar to the monster of Figure 4, who also has the magic ray to create life. It is most probable that No. 1 will be sacrificed,

and that this ceremony will take place before the planting of the corn. Similar voluntary sacrifices for the benefit of the community were observed as late as the sixteenth century.¹⁵

It is quite rare to find the necessities of life—such as food—as the gift implored. Figures 3 and 4 of Chalcatzingo, as well as several sculptures on altars at La Venta, depict the priest presenting the baby Sun God for the same situation. Another example, recently discovered in the state of Veracruz, is that of the priest also presenting the Sun God child, likewise with the slanted cross on his breast.¹⁶

The last large carving (fig. 2) represents the Sun God within a cave, or symbolically within the earth, holding a two-headed serpent bar, so well known from the Maya region where it is elaborated with sky symbols. Several elements indicate that this sculpture is of a later date than the rest, but the basic ideas have not changed. The House of the Sun of the Underworld is indicated by the crossed bands within an oval over the cave. Here the sun rays confirm that this symbol did have the meaning we have given it. From the interior of the earth the deity sends forth thunder and rain. The thunder is indicated by the scrolls which, in the hieroglyphic language of Middle America, generally mean sound. The rainmakers on the skirts of the volcanoes Iztaccihuatl and Popocatepetl, even in the present day, believe that lightning, thunder, and rain are produced in the caves where they celebrate ceremonies.¹⁷ Rain is represented by three groups of clouds in the upper part of the carving from which lines drop down, and scattered below these clouds are thirteen large "drops" of water, represented with a "chalchihuite," the green stone denoting preciousness. Five large chalchihuites are also seen falling from the sky, to further enhance the holiness of rain water. The glyph of the split hill is shown three times on the outside of the cave, to indicate the caves through which man communicates with the forces of the interior of the earth. From the corners of this large cave sprout maize plants, and, mingled with the rain drops, are two more.

A few more smaller carvings are found in the narrow portion of the ravine of the Split Hill of Chalcatzingo. These are shown in Figures 12 and 13, and Plate 7.

It would be difficult to underestimate the value, both archaeological and artistic, of this old site in the heart of the state of Morelos. Unfortunately, the authorities have not seen fit to guard the area against destructive hands, both official and unofficial, and aside from the molds taken for the museums of Mexico City and Cuernavaca, private individuals have been taking casts for their own use or collections, so that soon it may not be possible to recognize any of the features. It is our hope that this situation will be corrected soon, especially after the recent extensive disturbance of the La Venta site in Tabasco.

Notes

1. This report was previously published in "México en la Cultura," a dominical section of the Mexico City newspaper Novedades, on February 13, 1966. There only Figures 3 and 4 were published from tracings, while Figures 1 and 5 were drawn free-hand and Figure 2 was taken from Piña Chan's drawing. This was due to the fact that the reductions of the tracings could not be delivered on time. Here, tracings of Figures 1, 2, and 5 are published for the first time. The text has also been revised, and new ideas and interpretations have been added. An abbreviated version of the article was published in English in Mexico, This Month, Vol. XI, No. 9 (March 1966), under the title "Discovery at Chalcatzingo."

2. Cook, Carmen and Don Leonard, *Costumbres Mortuorias de los Indios Huaves*. El México Antiguo, Vol. VII, Mexico, 1949. The altars of the Huave Indians are divided in three parts. The lower part represents the underworld where the dead are, and the offerings under the table are dedicated to them. The altar proper is on the table, for the Christian saints and people. Over the table is a cover, called "What covers God." From it hang two or three decorated slanted crosses, which are God the Father. It is the same cross that is the basis for the sign Ollin of the Aztec calendar, and 4. Ollin is the birthday of the Sun. It is also the kin sign of the Mayas, where it has the meaning of "day" or "sun."

3. Cook de Leonard, Carmen, "La Escultura." In Esplendor del México Antiguo, Mexico, 1959. The Olmec elements mentioned are found on the Xochicalco pyramid which is dated in the Late Classic, around the year 700 A.D. Of special interest is a dwarfed Olmec figure near one of the corners of the back of the pyramid.

See also Cook de Leonard, Carmen, *Calli-Akbal y la Decima Trecena en el Hacha de Yucuquimi*. El México Antiguo, Vol. IX, Mexico, 1959. Here several Olmec elements which survive in Aztec time codices are compared.

4. We are thinking of some of the Jaina figurines, sitting on thrones, and the general idea of the holiness of the person as soon as dead, of whom no evil may be spoken. It is also notable that only Mictlantecuhtli, the name of the Sun when in the Underworld, may wear the xiuhuitzollí, or royal crown, as does the God of Dawn, into which he converts himself.

5. Seler, Eduard, *Codex Borgia*, Berlin, 1904. The identification of the gods are based upon Seler's interpretation of the Borgia Codex, and are therefore considered sufficiently well known that it is not necessary to mark each citation.

6. Fenichel, Otto. "The Scopophilic Instinct and Identification." In The Collected Papers of Otto Fenichel, 1st. ser., New York, 1953. This gives a summary of the psychoanalytical theories in relation to the eye, the idea being the unfortunate fact that each organ of the body has to serve several purposes, and that the eye sees first, before a sexual approach is made.

Leach, Maria (ed.). The Standard Dictionary of Folklore, Mythology and Legend, Funk and Wagnalls, New York, 1949. Under "blinding," the following cases are cited for blinding because of sex crimes: the laws of England at an early period prescribed blinding as a punishment for rape; among the Iroquois, the adulterer was so treated. In Biblical times the vicious Sodomites were blinded. Oedipus put out his own eyes in horror at having committed both murder and incest.

7. Núñez de la Vega, Fr. Francisco, "Constituciones diocesanas, Rome, 1702." In Eduard Seler, Codex Borgia,^d Berlin, 1904.

8. Encyclopaedia Britannica (14th ed.), Chicago, 1946. According to this source, the tapir is a large woodland mammal of the order Perissodactyla, with five front and three hind toes, massively built, and with the nose and upper lip produced to form a short flexible trunk. It is shy, solitary, nocturnal, and inoffensive, and exclusively vegetarian. The American species are all nearly uniform dark brown when adult; the young, like those of Tapirus indicus, are spotted and striped with white.

The elements in the Chalcatzingo tapir, to identify it as such, are the specially large head, the form of the ears, and the vegetables in front of him which could be his food. The short legs are also an indication, but unfortunately the toes are not clear, and cannot serve. The elements against this identification are the long tail and probably the snout should be longer.

9. Gay, Carlo T. E., Los Murales de Juxtlahuaca. Life en español, Vol. 29, No. 10 (May 22, 1967).

Gay, Carlo T. E., Oldest Paintings of the New World. Natural History, Vol. LXXVI, No. 4 (April, 1967).

According to the Spanish version, the first thing Gay saw when entering the cave was the red and black serpent. In the Natural History version, the Hall of the Serpent seems to be the last painting to be reached, unless the entrance was at one time through the subterranean lake, or some other way. David Grove informs us that this painting and the others are at different levels. I did not see the Natural History magazine until after

this paper was written. The tapir—which here looks more like a tapir than the one of Chalcatzingo—seems to be clearly identifiable as such. Here the belly of the tapir is red while the upper part is spotted, so that it would be a young one of the species. It is also remarkable that the serpent has a slanted cross in his headdress, which is the black part, while the body is red.

10. Guzmán, Eulalia, "Los relieves de las rocas del Cerro de la Cantera, Jonacatepec, Mor." *Anales del Museo Nacional de Arqueología, Historia y Etnografía*, tomo I, 5a, Epoca, México, 1934. This author was the first to write up the monuments of Chalcatzingo, reporting only on Figures 1 and 2 of the large carvings. Although her drawings are not quite accurate, and rather stiff, it was an incredible feat to draw the two figures on the left of our Figure 1 because they were drawn when it was necessary to crawl into a crevice to see them. These figures were copied by Covarrubias (see note 12) and by Valentín Lopez Gonzalez ("Breve Historia Antigua del Estado de Morelos," Dep. de Turismo y Gobierno del Estado, Cuernavaca, Morelos, 1953).

11. Piña Chan, Román, Chalcatzingo, Morelos, México. Instituto Nacional de Antropología e Historia, Informe No. 4, Mexico, 1955. During his explorations in Chalcatzingo in 1953, Piña seems to have made a new drawing of the ceremony (our fig. 1) which was later copied by Covarrubias. It is a free-hand drawing, and as such is good, but not sufficiently accurate for interpretation. Some of the differences have been pointed out.

12. Covarrubias, Miguel, *El Arte "Olmeca" o de La Venta*. Cuadernos Americanos Año V, No. 4 (Julio-Agosto), México, 1946.

Covarrubias, Miguel, *Indian Art of Mexico and Central America*. New York, 1957.

In the 1946 edition Covarrubias represents person No. 3 of our Figure 1, copied from Eulalia Guzmán (*op. cit.*), and in 1957 he publishes the complete group, copied from Piña Chan's drawing (*op. cit.*).

13. Gay, Carlo T. E., *Rock Carvings at Chalcatzingo*. *Natural History*, Vol. LXXV (August-September), 1966, New York. Although Gay made his drawings before we did, he published after us. His drawings have some omissions and errors; for example, on the serpent he did not see the man protruding from its fangs, and, without further explanation, he turns Figure 3 over to one side.

14. Ceremonies still exist today in Mexico in which no women participate, and the feminine role is played by a man. Even though it may be a

tradition, it means that there are always some men willing, and maybe eager, to play this part. Transvestitism is known from American Indians, and also in Mexico although not well documented in the literature. A fertility rite in which the sexual act is performed by two men under a cover, one dressed as a woman, has been presented in Tetelcingo, Morelos. The best known example is the man playing the part of the Malinche in the Volador.

Sometimes a tendency of the mother to treat the boy as a girl, dress him thus, and encourage a feminine behavior, will bring about this later inclination, either on special occasions or as a constant behavior. The mother may really only unconsciously want a girl instead of the boy, but outwardly the boy who will assume such a role, in order to participate in some religious ceremony or rite, will bring her and him prestige. Originally the society of men may have created these opportunities by the exclusion of women from certain ceremonies. According to Otto Fenichel ("The Psychology of Transvestitism," in *The Collected Papers of Otto Fenichel*, New York, 1953), identification with women, as a substitute for, or side by side with, love for her, is so plain in the manifest clinical picture that it is regarded as the essence of transvestitism. But the woman with whom the transvestist identifies himself is conceived of by him as phallic, which is the essential feature of the situation.

In Chalcatzingo the ears of the rabbit would assume a phallic symbolism within a feminine element, and would indicate an unconscious castration anxiety, to be avoided by a showing that the feminine symbol—the Moon, represented by the rabbit—is at the same time masculine.

15. Cook de Leonard, Carmen, "Psicodinamía de un Sacrificio en el Siglo XVI." *Revista Mexicana de Psicología*, Vol. II, No. 9, Guadalajara, Jal., 1966. This is an analysis of a ceremony described in 1589 by Juan Suarez de Peralta, probably witnessed as a young boy, in which a group of men celebrate a reunion in a remote house with music and dance. The room is decorated with strongly perfumed flowers and the personal idols of the men. The elders take turns as executioners, and the victim is chosen from a group of candidates who offer themselves to carry messages for the men present to the other world. After a long ceremony, speeches, and presents to the man to be sacrificed, the victim stands up and lifts his left arm, the better to receive the one blow allowed to take his heart out. As he drops down, his heart is placed on the live coals of a brazier, and the men rub the smoke thereof into their faces, arms, and legs. His body is placed in a cave, together with the gifts. After this the cave is walled up, "because he will return by another path."

16. Medellin Zenil, A., *La Escultura de las Limas*. Instituto Nacional de Antropología e Historia, Boletín No. 21 (September), pp. 5-8, 1965.

17. The rain makers of the caves of the volcanoes Iztaccihuatl and Popocatepetl make a difference between a "lightning flash" (centella) and "a striking lightning" (rayo). Centella is air with water, which comes out of the caves when it thunders. When it strikes a person, it marks the body with stripes, while the lightning splits the body. The Centella has an altar dedicated to it, and is personified. This is described in Carmen Cook de Leonard, "Roberto Weitlaner y los Graniceros," in Summa Anthropologica en homenaje a Roberto J. Weitlaner, Instituto Nacional de Antropología e Historia, Mexico, 1966.

Certain sicknesses are brought about by the rayo, such as the gout, when they say "you have rayo," and the pains are compared to hail. To be able to "receive thunder and lightning" without dying is to have a calling from heaven, and to be endowed with the gift of controlling the weather and curing other people. Bad weather and tempests are produced when bad people throw eggs (which have been used for curing and therefore contain the sickness of the person) into the cave, and the rain makers have to go and look into the caves to keep them clean.

When the centella kills, it makes a small hole in the head; if the rain makers can call the person back to life, he is considered born again and to have a calling from Heaven.

Explanation of Illustrations

Drawings by Osvaldo Barra Cunningham

- Figure 1. Fertility Ceremony with four priests participating; the one on the right will probably be sacrificed in order to gain entrance to the land of the Dead, the Underworld, as a representative of the Sun of Darkness. Dimensions: 1.62 m high, 3.2 m. wide.
- Figure 2. In the Underworld, in the House of the Sun of Darkness, the deity holds a two-headed serpent bar, symbol of the birth of twins and of fertility. He possibly wore a mask. He produces thunder and rain. Dimensions: 2.71 m high, 3.1 m wide.
- Figure 3. The Sun of Darkness, as a divine jaguar, captures the flame of light from the Eagle Dancer. The repetition of the group, diagonally placed, indicates the direction towards the Underworld taken by the dancing figures, as the sun sets. Dimensions: 2.57 m high, 2.03 m wide.

- Figure 4. Light is reborn, conceived by the Blue Fire Serpent. The one being born is the same Light deity, the Eagle Dancer, that was devoured in Figure 3. Dimensions: 1.29 m high, 3.86 m long.
- Figure 5. The tapir in the Serpent House guarding the entrance to the House of Darkness. The tapir was produced by the breath of the Jaguar God. Dimensions: 2.80 m high, 2.38 m wide.
- Figure 6. Brazilian tapir. Encyclopedia Britannica, Vol. 21, 806, 1946.
- Figure 7. Tezcatlipoca as a lunar god is born in the West at the Tenth Hour of the day. The cipactli, a mythical animal, tears off one of his legs, symbolizing the incomplete new moon. Codex Vaticanus B. (After Seler, 1902/3.)
- Figure 8. The Jaguar is conquered by the god of Dawn, Tlahuizcalpantecuhctli. Codex Vaticanus B.
- Figure 9. Different types of openings in heads or headdresses symbolizing the Split Hill. Above: nephrite breast plate (National Museum of Anthropology, Mexico); below, left to right: jadeite axe from the Mixteca, Oaxaca (National Museum); green stone (U.S. National Museum, Washington); jadeite axe (American Museum of Natural History). (After Miguel Covarrubias.)
- Figure 10. The Split Hill in the House of the North. MS 20 of the Aubin-Goupil Collection. (After Seler.)
- Figure 11. Sedentary figure, whereabouts unknown. (After Eulalia Guzmán, 1934.)
- Figure 12. A pumpkin sprout near Figure 2. Dimensions: 1.27 m long, 51 cm wide.
- Figure 13. Rock paintings within the ravine, in red. It cannot be determined whether these belong to the Olmec culture.

Photos by Carmen Cook de Leonard

- Plate 1. The Split Hill of Chalcatzingo as seen from the distance.
- Plate 2. Photograph of Figure 3 before chalking. It will be noted that the head of the upper human figure resembles the head of an eagle looking toward the right.
- Plate 3. Painter Barra chalking in the jaguar in the upper group of figures in Figure 3.
- Plate 4. Lower part of Figure 3 chalked in.
- Plate 5. Detail of the great serpent, of which the head is seen; the young Sun God is being reborn with arms uplifted.
- Plate 6. Photograph of Figure 5. The tapir in the Serpent House.
- Plate 7. Small carving near Figure 2, described by Eulalia Guzmán as a rabbit, but considered by the people to be a fish. The eyes are reminiscent of the ceremonial bar held by Figure 2; and the tears, of the raindrops in the same figure.
- Plate 8. Marker which stood in the streets of Chalcatzingo in 1945, but which has since disappeared. About 70 cm high.

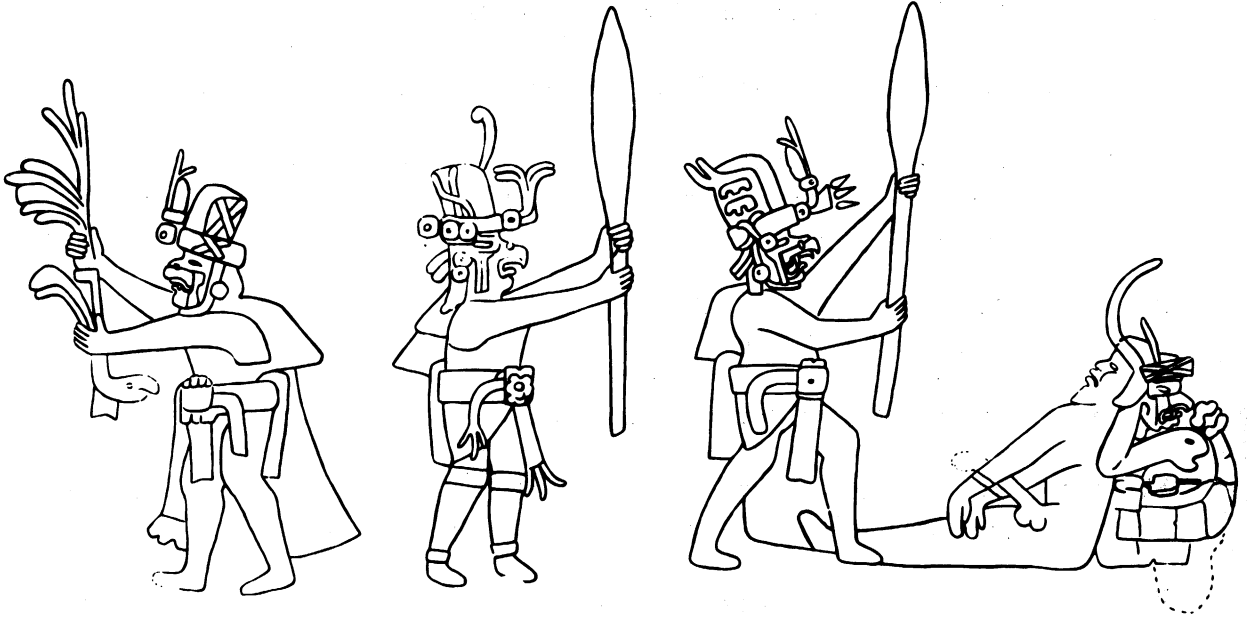


Figure 1

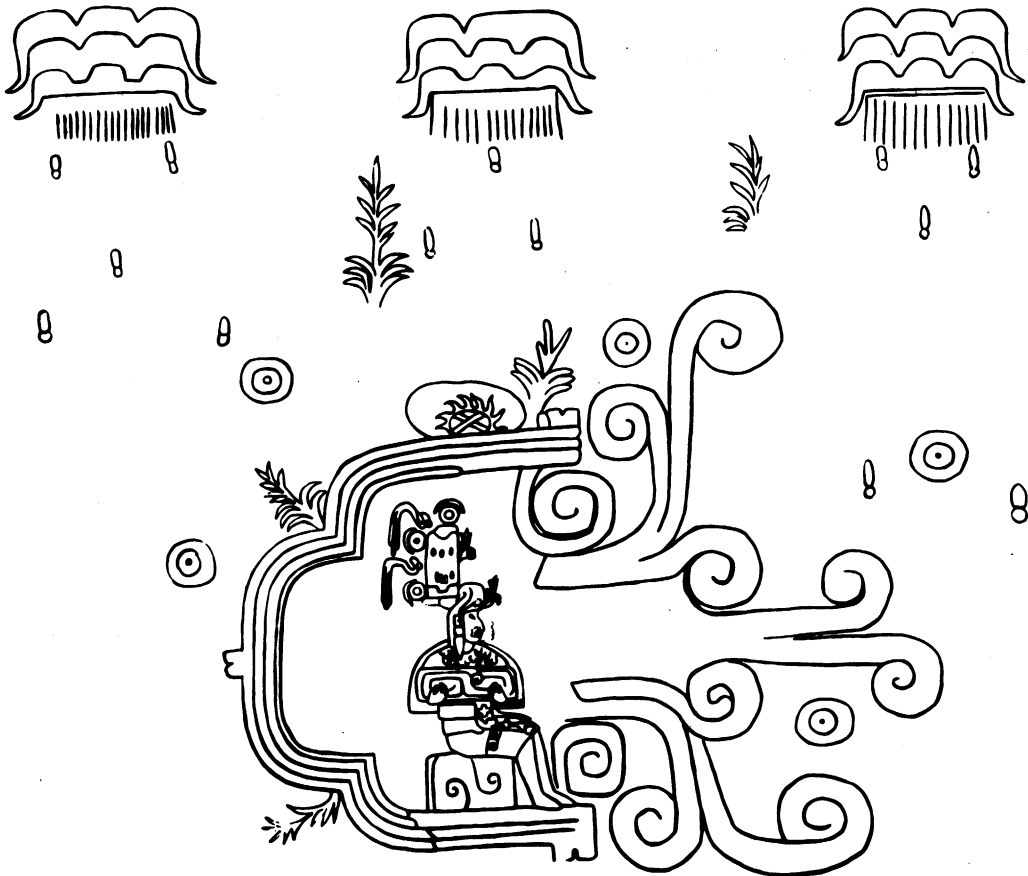


Figure 2



Figure 3



Figure 4

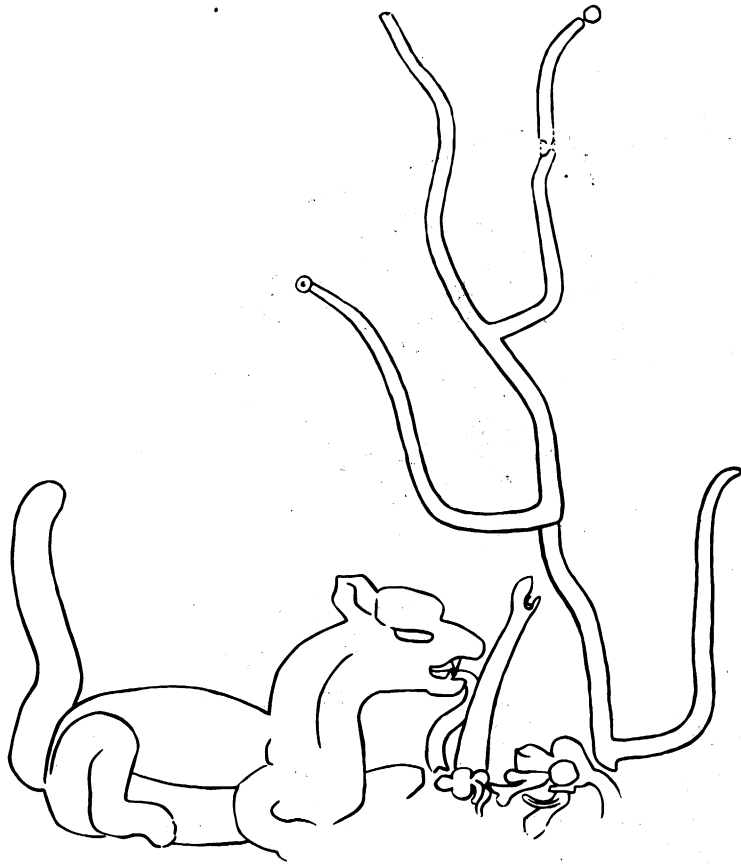


Figure 5

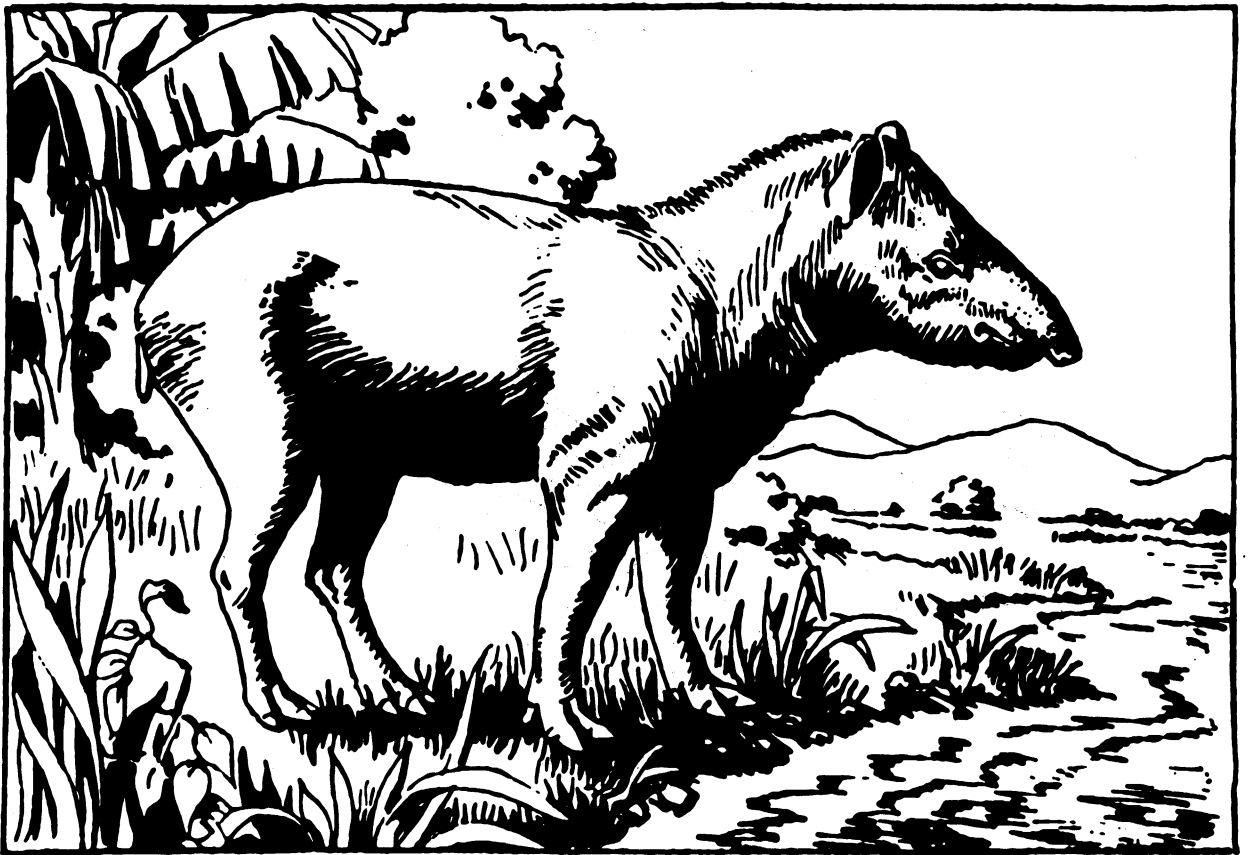


Figure 6

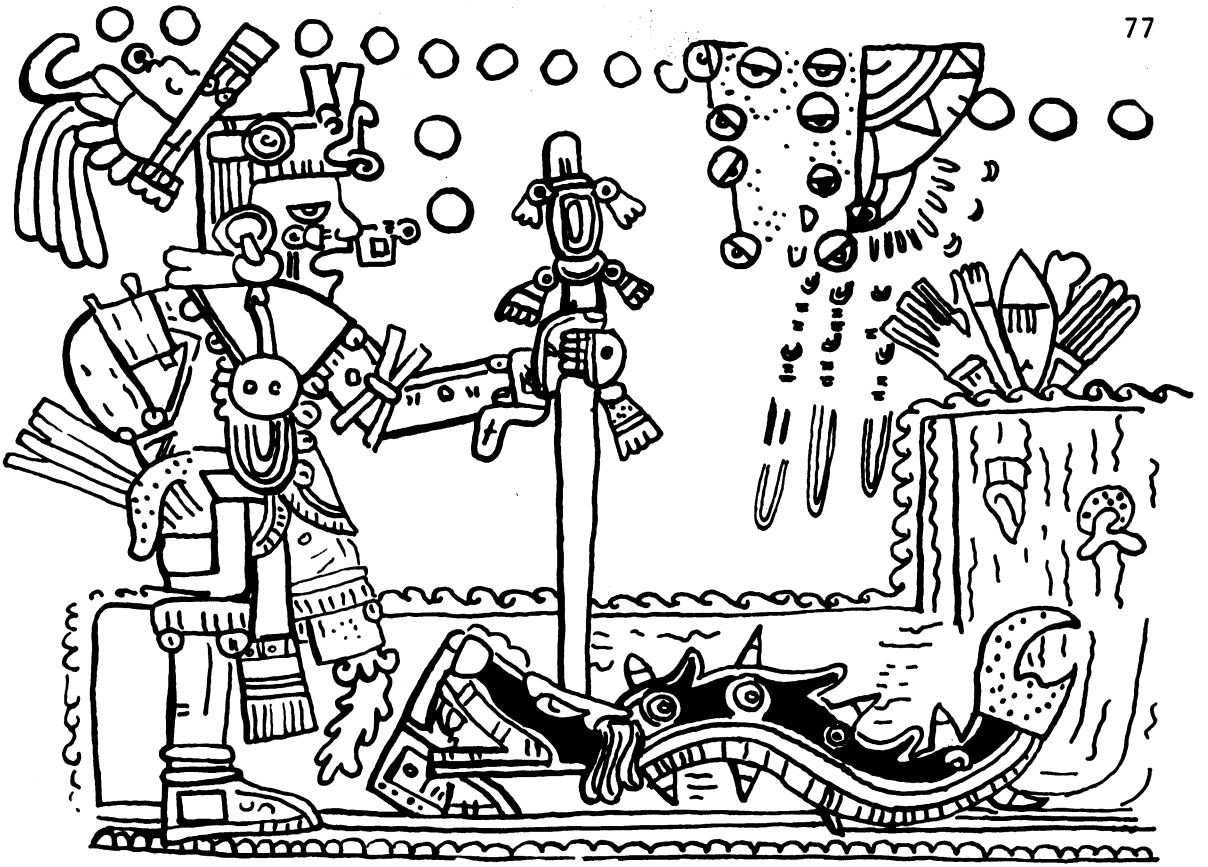


Figure 7



Figure 8

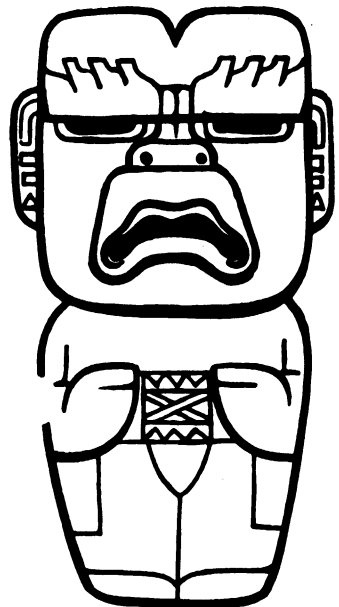
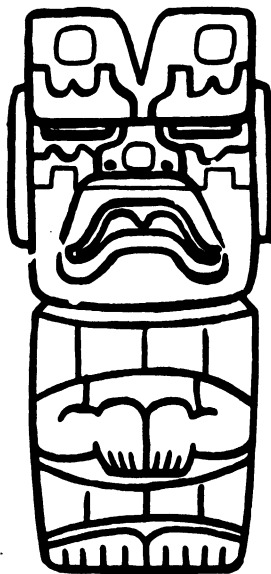
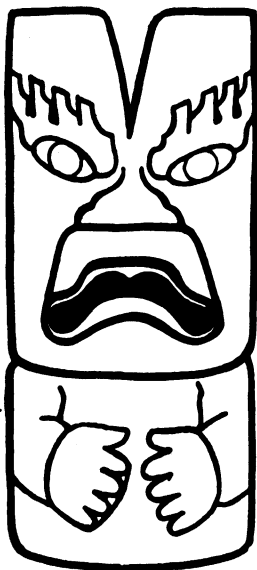
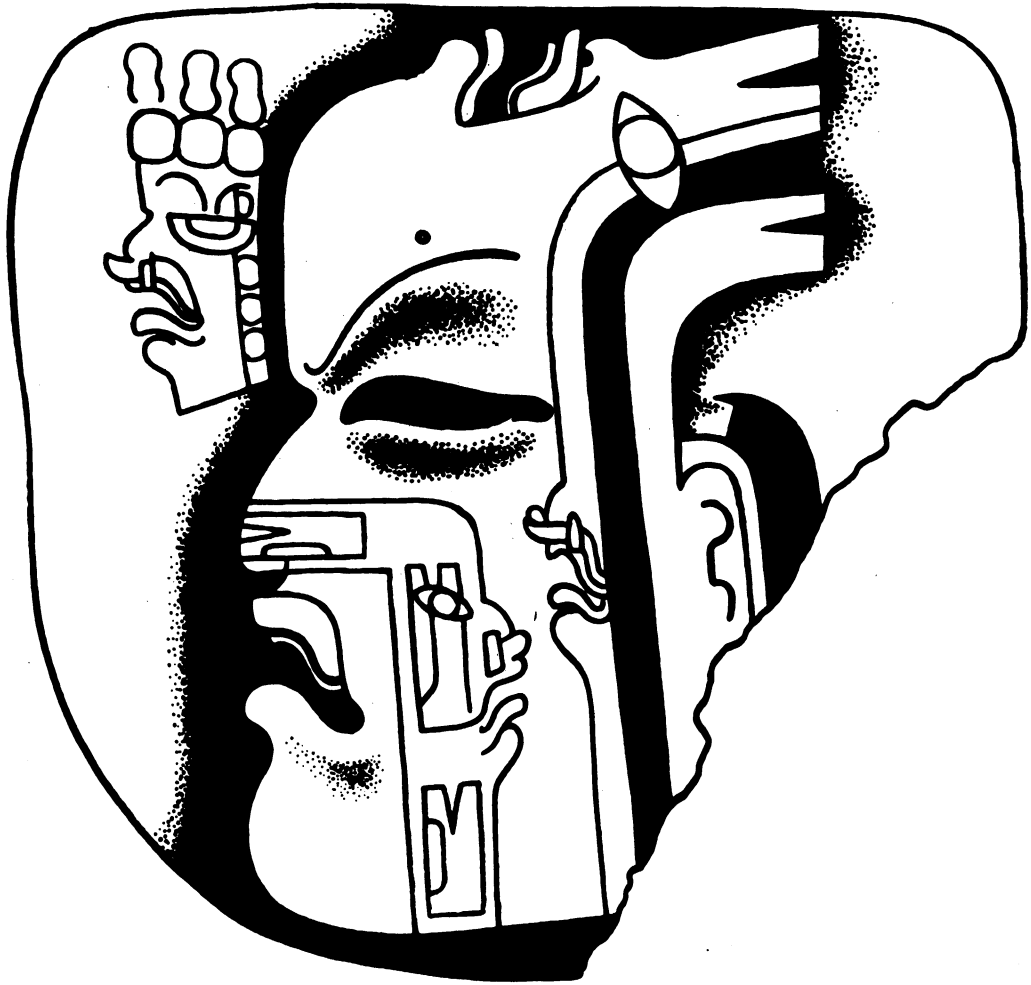


Figure 9

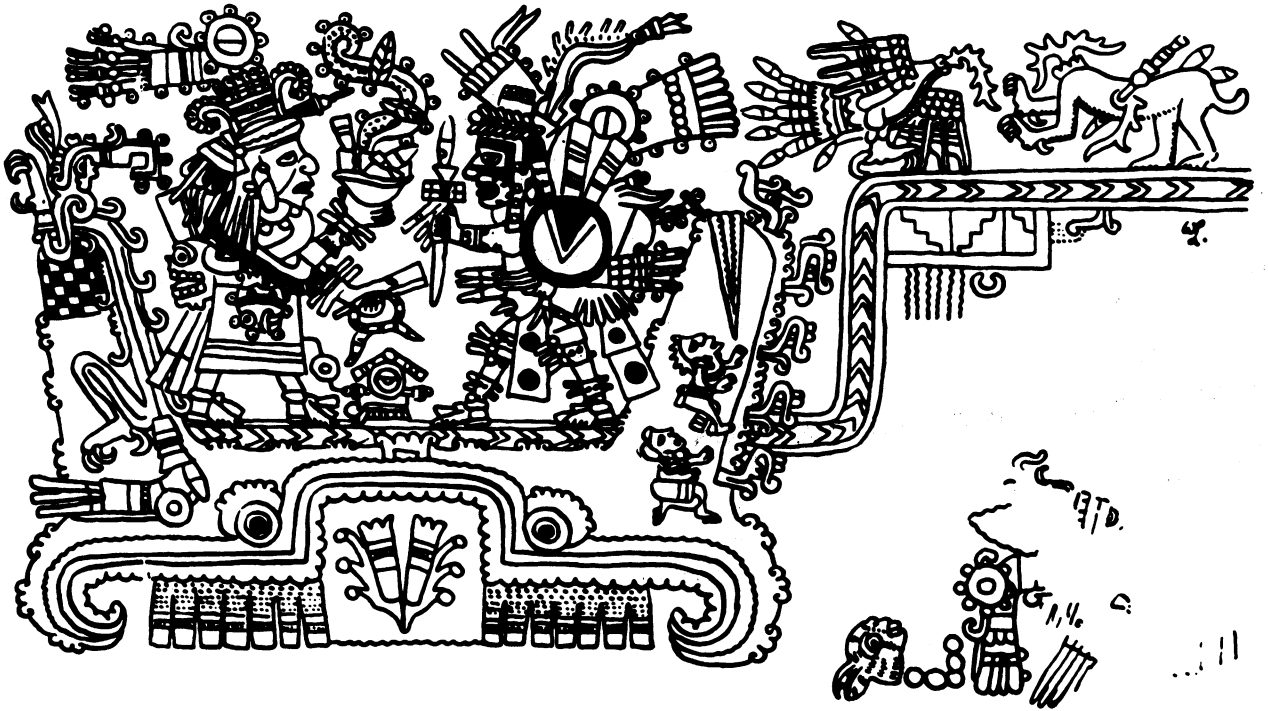


Figure 10

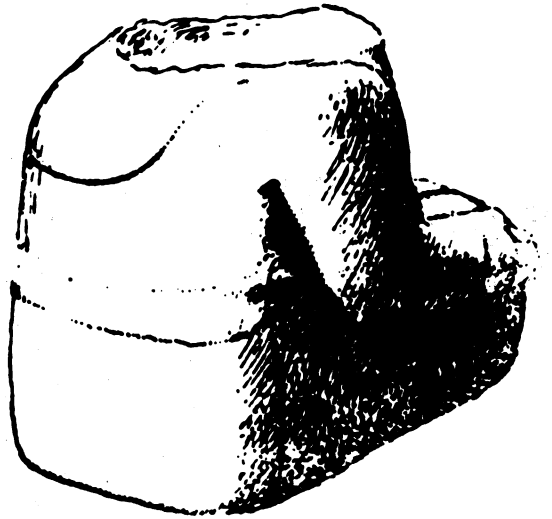
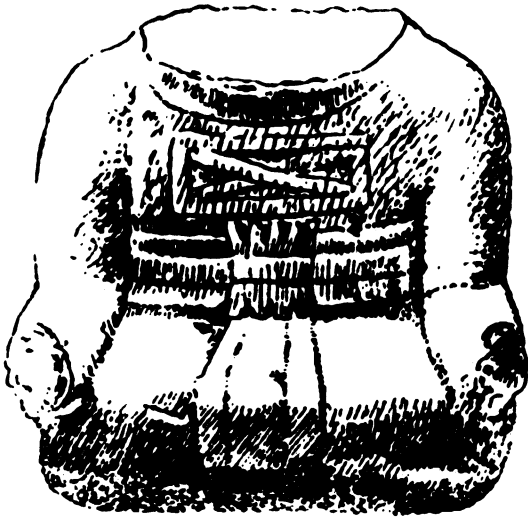


Figure 11

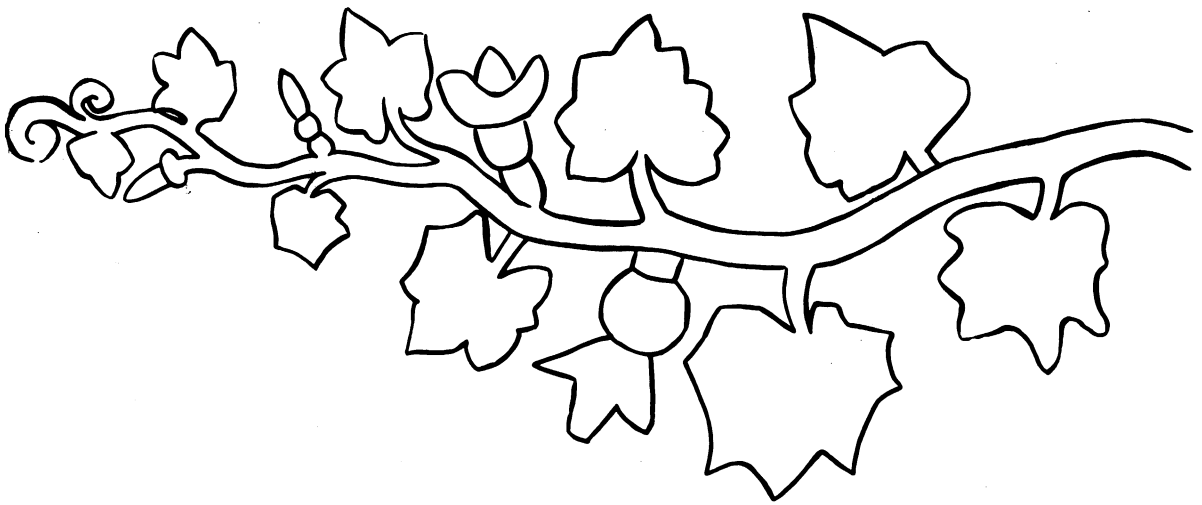


Figure 12

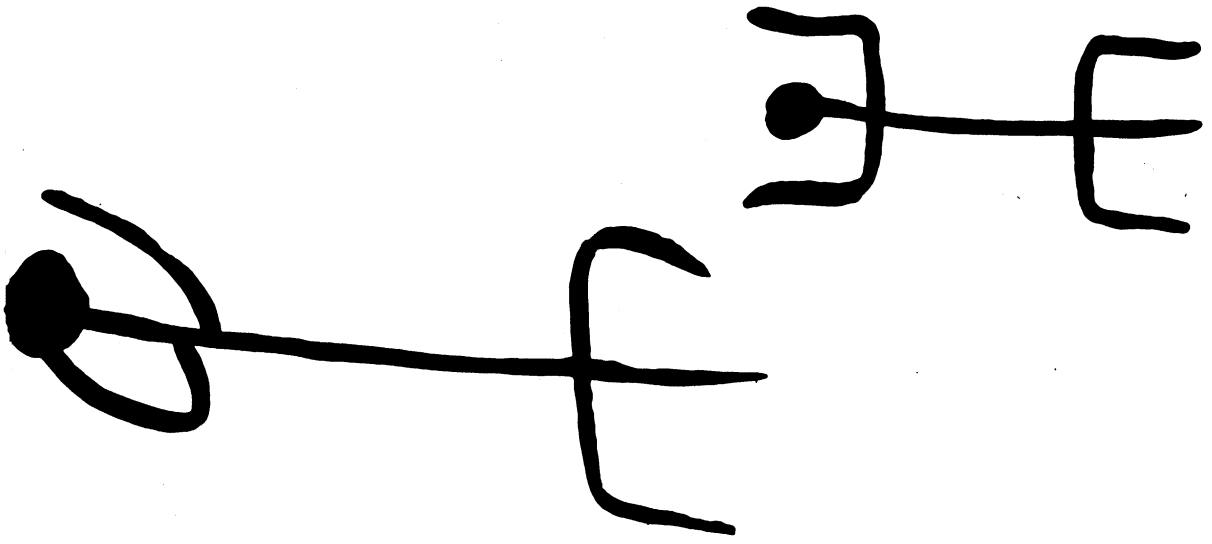


Figure 13



Plate 1



Plate 2

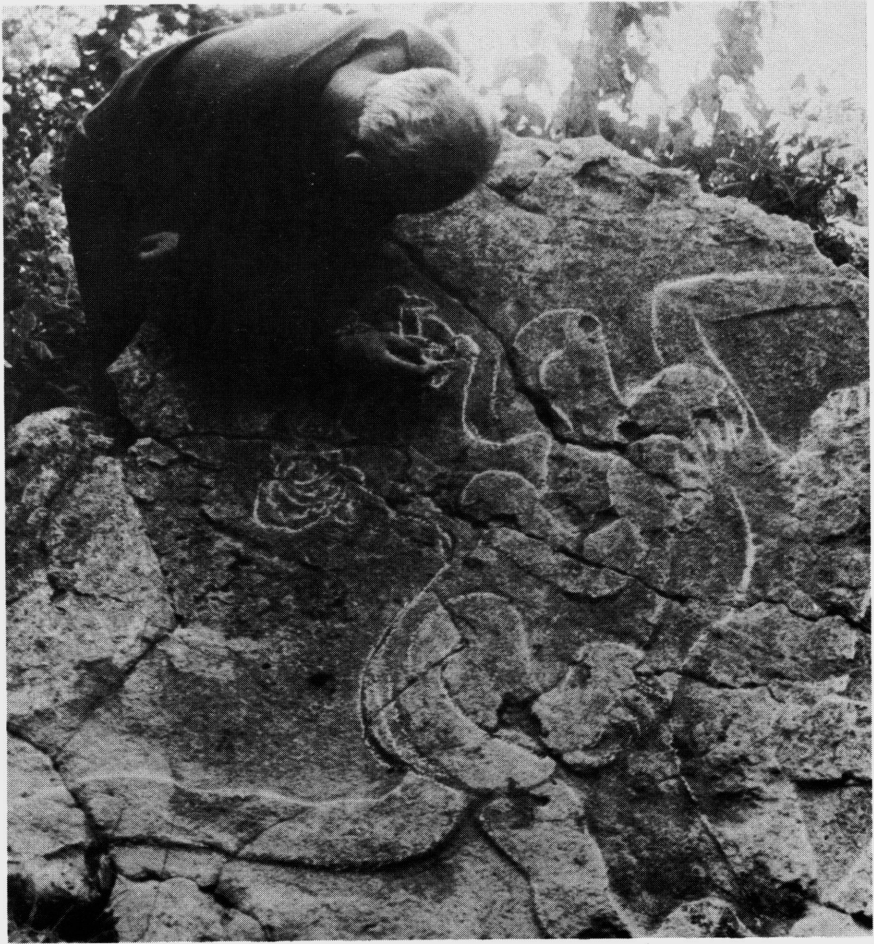


Plate 3



Plate 4

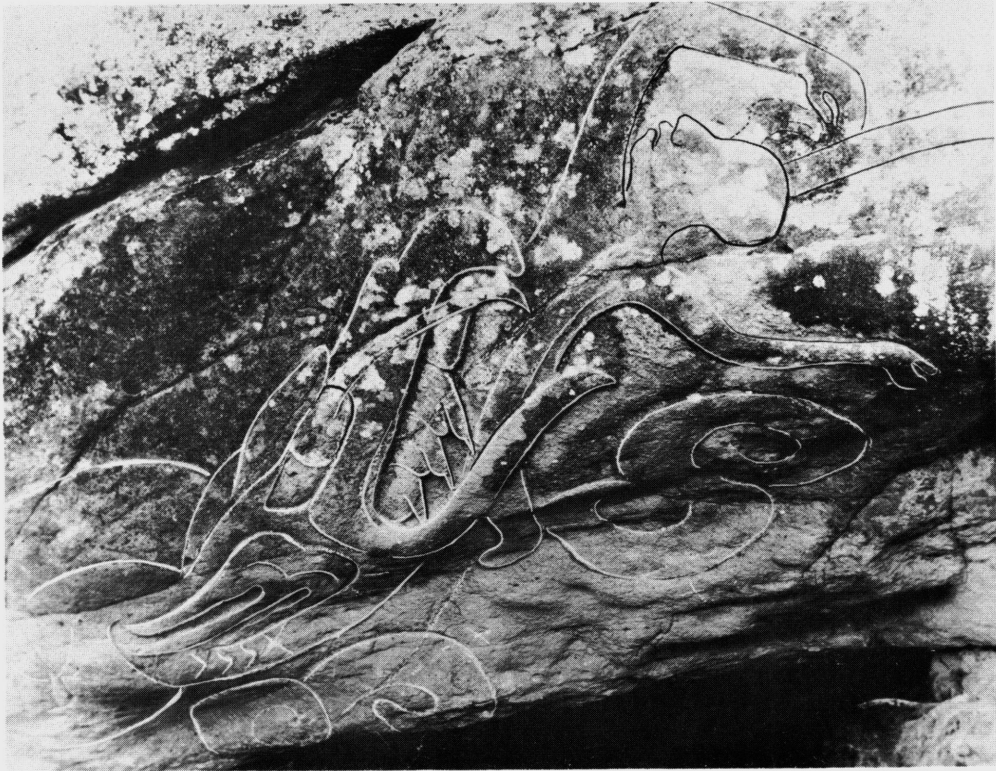


Plate 5



Plate 6

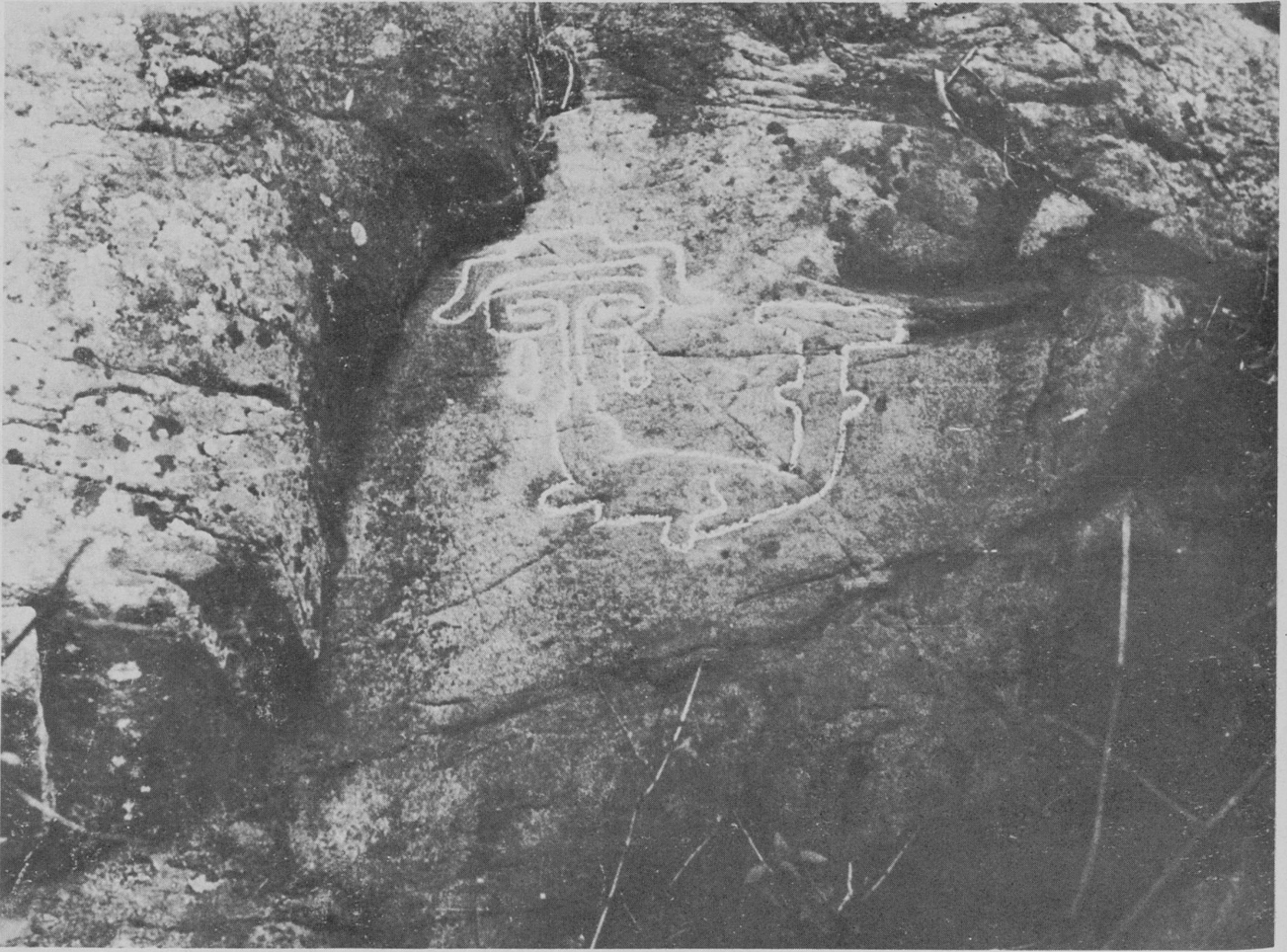


Plate 7



Plate 8