IV. COMMENTARY ON: THE OLMEC REGION - OAXACA

Robert F. Heizer

My assignment at this Conference is to serve as a discussant for Dr. Bernal's contribution on the Olmec culture. This I find not a difficult task because he has done such an excellent synthesis here and in his recent major work The Olmec World (1969) that only brief comments on substance need be made.

My remarks will follow Bernal's order of presentation in his Conference paper. First is the important matter of dating. We now have available 25 acceptable radiocarbon dates from the La Venta site and 14 from San Lorenzo. There are an additional dozen or so La Venta dates, but some are suspected to be, and others are known to be, inconsistent with their stratigraphic source and cannot be accepted. In addition to those dates listed at the end of Bernal's paper, we can add the following:

(1) UCLA-1350, 1150 ± 80 B. P. and Y-2378, 1370 ± 80 (800 and 580 A.D.) for a post-La Venta firepit occurring within the surface drift sand mantle. These dates mean nothing in terms of Olmec occupation, and merely indicate early Postclassic utilization of the main site area about 1000 years after its abandonment.

(2) UCLA-1630, 2630 ± 60 B.P. (680 B.C.). Based on charcoal from uppermost artifical clay fill forming the floor of what earlier we tentatively interpreted as a possible ballcourt at the south end of the Stirling Group at La Venta. Nothing found in the brief explorations carried out in March and June, 1970, can be interpreted as specific ballcourt features.

Bernal's assessment and rounding off of the La Venta radiocarbon dates leads him to assign the age of construction Phase I to 1300-900 B.C.; Phase II, 900-600 B.C. and Phase IV, 600-450 B.C. Phase III has only one secure date, 600 B.C. (UCLA-1332). Bernal may be right, but my impression is that the succession of rebuilding events (which Drucker and I, perhaps inaptly, called phases) were probably more formally or regularly spaced through time than suggested by his analysis of the radiocarbon dates. Phase III was a major one at La Venta and I would guess that it was of the same approximate duration as Phases I and II which preceded it. However, it is possible that its duration was very brief. As an aside I note that Bennyhoff in his paper prepared for this Conference believes that the La Venta pyramid was erected in Phase IV - that is, toward the end of the site's history about 600-500 B.C. While this might be true, and there is no evidence to affirm or deny the opinion, I believe that a major construction existed

here from the beginning, though it may have been increased in diameter and height from time to time and achieved its final form only at the end. Since we cannot really hope to answer such questions of the internal chronology of the site without further excavation and collection of charcoal for dating, we can generally agree that La Venta began about 1000 to 1200 B.C. and lasted until 400-500 B.C., which is almost precisely the time period which Ford in his Comparison of Formative Cultures of the Americas assigns to what he terms the "Theocratic Formative."

The San Lorenzo site Olmec occupation begins ca. 1150 B.C. and terminates ca. 900 B.C., its floruit thus being somewhat briefer than La Venta. There is older occupation evidenced at San Lorenzo than presently proved for La Venta, but this imbalance may in time prove to be more apparent than real since there are clear signs of pre-LaVenta period (i.e. pre-Phase I) refuse at La Venta which have not yet been sampled adequately. There are at La Venta no structures or stone sculptures antedating the major Olmec occupation, the latter appearing according to present evidence to be something established there from outside rather than developing gradually on the spot.

Bernal correctly sees a main problem about Olmec stone monuments, and this is the question of where they date within the occupation spans at San Lorenzo and La Venta. Coe believes that the Chicharras Phase (dated at 1150 to 1250 B.C.) occupants of San Lorenzo were producing Olmec style basalt sculptures of the same genre as occur so abundantly in the San Lorenzo Phase which follows immediately. The evidence for this is basalt waste and a single fragment of sculptured basalt. The La Venta monumental stone sculpture is not dated or dateable with reference to stratigraphy or radiocarbon. This is due in part to a failure of the earlier excavators to examine the stratigraphy and ceramic associations of the large altars, stelae and colossal heads, and in part to the final positioning of many of these sculptures on the latest (i.e. Phase IV) construction surfaces. Thus, while all of this wealth of sculpture at La Venta can be said with assurance only to date from the time of or before the abandonment of the site, i.e. 400-500 B.C., some of it may go back to the beginning of the site around 1000 to 1100 or even 1200 B.C. Coe believes that all of the La Venta stone sculpture dates from the earliest phase of the site, but it should be remembered that this is stylistic and not stratigraphic dating. At La Venta in 1955 we found beneath Monument 13 a pit and offering which dates from Phase IV. If the same monument stood at this spot in Phase III, as we suspect it did (BAE-B 170:Fig 10) this would be evidence for the repositioning of monuments at times when this was made necessary by new construction activities. This single hint is important in suggesting that monuments were either re-set or changed while the site was occupied, and further, that the La Venta sculpture may be viewed as a local collection formed over a period of time which might be as long as that of the six or seven centuries of site occupation. Since both the San Lorenzo and La Venta people were capable of moving very large stones, the shipping of finished sculptures from one site to another is a possibility that cannot be ignored. The close

similarity of Monuments 20 and 14 from San Lorenzo, to Altars 4 and 2 at La Venta would surely encourage the hypothesis that both pairs were made at one place and dispatched to separate sites. Clewlow's demonstration of the practical identity of two Olmec sculptures found about 55 airline miles from each other is the clearest evidence we have of such transport (Contribs., Arch. Res. Fac., Berkeley, No. 8, 1970). The quite variable style and condition of the colossal heads from La Venta may indicate separate histories and different ages of some heads before they were brought to La Venta. But whether sculptures were moved from La Venta to San Lorenzo, or vice versa, or whether finished monuments were brought to each site from older sites in the Tuxtla Mountains we do not know. There are hints, and only that, of sculpture workshop areas at La Venta, but the information is too scanty to support speculation. I agree that a better understanding of the source and age of these stone sculptures is important, but think also that these problems will be difficult to solve.

Bernal reminds us that we should think of Olmecs as a people occupying a geographical area rather than a series of populations attached to individual sites. I agree, but at the same time note that our reliable information on lowland Olmec archaeology comes from a very small number of sites about which we have often limited or contradictory information. For this reason a discussion of settlement patterns is impossible. Bernal (The Olmec World, pp. 49-50) prefers to call La Venta a "dispersed city" rather than a "ceremonial center", the distinction being important to him because the dispersed city is defined as the urban core in which the palpable and visible as well as the socio-religious activity manifestations of the civilization were concentrated. I have used the term "ceremonial center" and "religious capital" to describe the La Venta site, but with the same meaning that Bernal used "dispersed city." Some general agreement on terminology would be useful, and perhaps we can discuss this at the present conference.

As to Olmec population numbers and details on modes of economic support, we again know very little. Bernal's estimate of an Olmec population of 350,000 living in a territory of about 7,000 square miles seems to me rather too large on both counts; perhaps half or two-thirds of that area and population would be an equally good guess, but our difference here depends upon how one draws the territorial boundary of a people we know so little about, and even more importantly, how efficiently they were utilizing the area they occupied for economic production. Bernal's suggestion that the "Metropolitan" Olmec territory may have been divided into a series of "city states" whose capitals numbered Tres Zapotes, Laguna de los Cerros, San Lorenzo and La Venta has been made before, but until we have better chronological control and can devise some way of testing this theory it can remain only that. These large sites are situated on an arc surrounding the northern edge of the Tuxtla Mountains. The mountain area itself is a very attractive one for farmers, but thus far no sites of equal age or size to the lowland ones

mentioned have been discovered here. It has hard to believe that the hot and humid lowland zone surrounding the Tuxtlas was occupied and the cooler mountain area with its rich volcanic soil was vacant. Until this central upland zone has been adequately surveyed we will be hampered in trying to account for the big sites in its penumbra. Whether there existed an Olmec state in lowland Mexico we do not know, but the common sharing of the monumental style of art suggests some political unity. Warfare, a common feature of states, is not clearly evidenced either in pictorial art, military artifacts or defense locations of sites. The size of the major sites, of which San Lorenzo and La Venta are the best known, and nature of many of the features at these sites, clearly indicate that a large labor force was available to carry out the large scale construction works. At La Venta the two largest structures are the conical "pyramid" and the Stirling Group acropolis. The pyramid is 420 feet in diameter, over 100 feet high, and has a mass of about 3.5 million cubic feet. The Stirling Group acropolis measures 650 by 700 feet on the sides and rises 37 feet above the original ground level. Its mass is slightly in excess of 16.5 million cubic feet. Coe has intimated that the whole San Lorenzo site plateau is an artificial construction; a rough calculation of its mass is 140 million cubic feet! Such public works projects are unique to lowland Olmec sites in Middle Preclassic times, and by their mere existence they prove that society was organized in such a way as to control the labor of a considerable population.

There is evidence of long-distance trade at San Lorenzo and La Venta in the form of obsidian drawn from ultimate sources in the states of Hidalgo and Puebla to the north and Guatemala to the south (Contribs. Arch. Res. Facil., Berkeley, No. 5, 1968). What is of interest here is not so much the fact that obsidian was serving as a trade item, but that the "sphere" of procurement running from Hidalgo in the north to southern Guatemala in the south covers the areas of both Bernal's Colonial Olmec and Olmecoid settlements. What other goods, presumably of a perishable nature such as food, cacao, copal or feathers, may have been traded we do not know. Most important, perhaps, were the ideas which were transmitted along the routes by which the obsidian was passed. And along these routes also could have passed sculptors trained in the canons of Olmec art who left the evidence of their presence at such places as Pijijiapan, Las Victorias, Batehatón, San Isidro Piedra Parada and Chalcatzingo. Some theorizing has been formulated around the presumed and probable, but not proven, trade between highland Oaxaca and the Gulf lowland in magnetite and ilmenite from which mirrors and beads were made. Such trade in obsidian and magnetite and perhaps jade also, may have been carried out on an informal exchange basis. Flannery suggests that the Oaxaca-San Lorenzo magnetite trade served as a status reinforcing mechanism where surplus food was exchange for luxury items. Flashy and rare imported items usually become the property of the wealthy who can afford them, but this does not tell us very much beyond the fact that some hierarchical system of status existed. It would be interesting to know if there were Isthmian markets at such spots as the modern market towns of Juchitan and

Acayucan which lie at the points on the Pacific and Atlantic sides of the Isthmus at the valley and elevation "hinge points," in which lowland and highland goods, as well as people, came together with resulting exchange of goods and ideas. Such trading spots, whether they may have been small informal village markets where individual merchants appeared with their goods, or whether they might have been large organized markets to which numbers of traders went with large amounts of goods, would account for the various highland-lowland shared items of ceramics and material goods. I agree with Bernal and Flannery (Dumbarton Oaks Olmec Conference, 1968) that the peoples of the Oaxacan region around 1000 B.C. may have quite independently achieved a sufficient degree of socioeconomic development so that they were interested in the somewhat more sophisticated and exotic forms displayed by the lowland Olmec, and that they were receptive to these. The large scale procurement of schist and serpentine by the builders of the La Venta site from the metamorphic zone of the Pacific half of the Isthmus of Tehuantepec (for area see Contribs. Arch. Res. Facil., Berkeley, No. 1, Map 3, 1965) proves either that large numbers of people who lived in the area producing serpentine and schist were engaged in quarrying and transporting these materials northward to the lowland Olmecan centers, or that the Olmecs themselves were engaged in this work which we may call a large scale "lithic industry". We do not know which system was employed, but if it was the latter it would imply territorial ownership or political control of a larger part of the Isthmian area by the lowland Olmecs than is often assumed was the case. Green and Lowe in their Altamira and Piedra Parada report (NWAF Papers No. 20, p. 71, 1967) consider the Olmec heartland to extend across the Isthmus to the Pacific. There are allegations that the distinctive blue-tinted Nicoya jade was used by the Olmecs but I have never seen any of this particular and distinctive jade from Mexico, and can say categorically that none of it occurred at La Venta which is the one site from which we have a substantial collection of jade whose site origin we are certain of. We should be careful, I think, about talking about long-distance trade of the La Venta-San Lorenzo people and inferring from this a "trade network" because thus far the amount of material present at these sites secured from distant sources is very small - - so slight, in fact, as to be almost insignificant in terms of the totality of hard goods in these sites. What we know nothing about, of course, is what kinds of perishable objects may have been changing hands.

The Veracruz lowland-Oaxaca highland region might be termed the "Preclassic Isthmian Oikoumene," a geographical-historical unit within which a related set of happenings and forms developed - a rich and variable web of culture growth achieving the qualitative level of civilization. Bernal's felicitous term "symbiotic area" intends to say the same as my adoption of the word Oikoumene though symbiosis implies to me a somewhat greater emphasis on necessity and even biological survival than Oikoumene which bears the connotation of operating on the suprabiological or cultural level.

La Venta and San Lorenzo are at present the oldest radiocarbon dated large Olmec sites with abundant sculpture, formalized plans and major architecture. The scale or degree of organization of society, esthetic development, and technology exhibited at these two sites is not duplicated elsewhere on the same time level in Mesoamerica. Everything tells us, regardless of their Early to Middle Preclassic time placement, that the recognizable Olmec manifestations at these sites is not a beginning, but rather a climax. Where, and in what form, the undoubted earlier and developmental stages of lowland Olmec culture occurred we do not know, but there is no doubt that we will learn about this with more work and new discoveries. My own inclination is to expect that pre-La Venta, pre-San Lorenzo period Olmec sites will be found in the eastern Tuxtla Mountains and that these will be smaller and somewhat simpler in form but still recognizably Olmec through their layout patterns and style of stone sculpture. Such sites may have to date escaped notice both because no field work has been done here, as well as because of the probable obscuring of sites beneath volcanic ash deposits. An alternative area is the higher country of the Isthmus lying directly to the south and from whence we assume came a substantial amount of the serpentine and related metamorphic minerals (schist, jade, ilmenite-hematite) used by the Olmecs. The ritual-oriented aspects of the big Olmec centers in the Southwestern lowland region of Mexico must have antecedents, and many features are so distinctive that they should be easily recognizable. Among them are the round fluted conical pyramid whose model may be a naturally eroded cinder cone in the Tuxtla Mountains (Antiquity 42, Pl. XII, 1968); the particular art style as evidenced in small or large stone carvings; large and thin rectangular unfired adobe bricks for platform or wall construction; use in architecture of well-shaped rectangular blocks of basalt and serpentine; and the placing of large so-called offerings in the form of flat pavements or mosaic masks of serpentine blocks in deep dug pits. Since we do not know where Olmec culture in the form in which it is manifested at sites such as San Lorenzo and La Venta as early as 1100 to 1200 B.C. originated, we can only speculate on the time, place, and manner of the formation of this particular event.

There have been, over the past century, a number of suggestions made arguing for Old World germinating contracts, either by way of the Pacific or from Africa by way of the Atlantic. None of these opinions in my judgment, are to be seriously considered. This leaves us with a local i.e. American, origin of the particular cultural syncretism which we call Olmec. In 1970 it seems unlikely that there remains still to be discovered any hitherto unknown culture in Mesoamerica which will be the equal in age and in degree and sophistication of development to the Olmec culture as seen in the major Vera Cruz-Tabasco sites. At the same time it is possible that archaeologists have thus far not found some Early Preclassic development which will change all of our current ideas. But, assuming that a main flowering of Mesoamerican high culture occurred in the southern Veracruz-northern Tabasco region some time before 1200 B.C., what several factors may have been combined, and in what manner, to produce this particular pattern?

In the first place, no single element or factor can be assumed to have been principally causative. A sounder approach would be to consider the several factors involved to be individually pre-requisite but processually significant only when they came into combination in such a way as to produce the Olmec pattern. The Olmec food-production system, about which we know nothing in fact, must have been efficient enough to provide a surplus which allowed free time for large-scale public-works construction activities. That proposition is, I think, undeniably true, but in stating it I do not mean to say that economic sufficiency was the causative factor but rather that it is one of the preconditions of Bernal's "dispersed city" and large-scale architectural construction. Parsons and Price in their Conference paper dealing with trade argue that the Gulf lowland in Middle Preclassic times was especially favorable for agricultural production, that this led to greater population density, and thus the stage was set for the precocious emergence of Olmec culture. I do not know of any evidence for or against this view, but even though we accept it as some kind of ecologic-demographic explanation, it still fails to explain what went on in all those Olmec heads (not stone ones). A surplus of corn may mean a full belly, but it will not by itself explain the Olmec culture pattern. Let us assume a maize farming economy in full operation by or before 1200 B.C. practiced by a substantial population of people we call the Olmecs. This assumption seems safe because over most of Mesoamerica effective agriculture as the primary subsistence basis appears to have been established by 2000-1500 B.C. The Olmec farming system was surely the swidden or slash-and-burn type which still obtains throughout the forested areas of Mesoamerica and about which we have a great deal of ethnographic information (for La Venta see SWJA 16, No. 1, 1960). Of high importance in this farming system is the time at the end of the dry season when the cut vegetation is burned and the fields are planted just before the rainy season begins. To do this with any assurance one must know something about the weather pattern and have a calendar. While the seasonal weather pattern is not absolutely fixed, it does observe a time protocol. If there should come early rains followed by some weeks of dry hot weather and the farmer burns the milpa and plants too early by error, he may fail to get a crop. Perhaps Preclassic agriculturists were more knowledgeable than I assume them to be, but I like to think that not all of them were, and further that if a newly emerged priesthood said "Don't call us about whether a particular rain marks the time to burn and plant - - we'll call you", the idea would have been attractive since it was a mitigation of one of the greatest uncertainties of living as a village farmer. But beyond this, suppose that the priests also said, "And what is more, we will at the La Venta dispersed city-ceremonial center, engage in a lot of mumbo-jumbo with the astral, agricultural, solar and pluvial deities whom we are well acquainted with, and through our influence we can get them to behave in a rational and benevolent way which will benefit you."

Today in rural Mexico there is a sufficient degree of literacy so that the time for burning and planting is determined by consulting a printed

calendar. In preconquest times the calendar was a responsibility of specialists, and it was from them that the word came about the proper day to clear, burn, plant or harvest. Regardless of how involved the Maya had become in the intricacies of calculating dates, we must remember that their calendar was still a practical time reckoning method which was closely associated with Maya agriculture. There are a lot of opinions about whether the Olmecs had a complex calendar of the Maya type. It does not seem very probable to me that they did. Parsons' suggestion in his Bilbao report that the Cycle 7 monuments belong with the Izapan horizon style which is Protoclassic (100 B.C.-100 A.D.) fits better with the archaeology than other interpretations which try to associate them with an earlier time level. But, this is not to say that the Olmecs did not have any calendar. We tend to associate the Maya calendar with writing, but there are many calendars which are much simpler and whose development into accurate chronometric systems would merely need more refined observation and the keeping of long-term records. Leslie Spier's study of southwestern Indian calendars (Mus. No. Ariz. Bull. 28, 1955) and Leona Cope's earlier and more general study of North American Indian calendar types (Univ. Calif. Publs. Amer. Arch. and Ethnol., Vol. 16, No. 4, 1919) attest the existence of a number of calendars whose basis is termed "astronomical" for the reason that the year is begun or divided by determination of the solstices, or from the time of the rising at dawn of constellations such as the Pleiades or stars such as Orion. Calendars of this type also occur in South America, and there seems little doubt that they were known in Mesoamerica before more complex systems were developed. What I am saying is merely that simple astronomical type calendars must have existed in Mesoamerica in Preclassic times.

Control of weather by specialists who possess supernatural power to influence wind or rain and can either bring or terminate these weather conditions occurs so widely among North and South America tribes as to allow the conclusion that the practice is almost universal among American Indians. In Mesoamerica weather control was either in the hands of priests who had no other duties, or lay in the domain of non-priestly specialists in village societies such as the backwoods Populuca of the Tuxtla Mountains whose "rainmakers" claim to be able to bring on damaging rains and extort money or goods from people whom they threaten to injure by applying this special power (G. Foster in Inst. Panam. Geogr. e Hist., Publ. 51, 1940; Univ. Calif. Publs. Amer. Arch. and Ethnol., Vol. 42, No. 2, 1945; Amer. Ethnol. Soc. Monogr. V, 1942).

We do not know whether any of the large stone monuments at La Venta were present there as early as 1000 or 1100 B.C. but since closely similar ones are reported to occur at the San Lorenzo site on this time level (i.e. San Lorenzo Phase) we can believe that some of the La Venta monuments also existed at the same time. There can be no doubt that important individuals are depicted on some monuments. I think it very probable that these persons are the La Venta leaders. It would help us considerably, as Dr. Bernal

points out, if we could identify the nature or role of these persons since this would give us a direct lead to understanding the hierarchical structure of La Venta society. I believe that these important persons were specialists in ritual and the calendar, and were an important element in the successful agricultural system which was practiced through that part of the Olmec area which the La Venta center controlled. This is a pretty large claim to make for a culture in 1000 B.C. in southeastern Mexico, and I will try to cite some supporting arguments:

There cannot be much doubt that La Venta was a great center of ritual. The abundance of stone monuments which were precisely and formally positioned relative to the centerline; the nature of the architectural constructions in the form of mounds, plazas and platforms; the peculiar deeply buried deposits in the form of one to 28 layers of green serpentine; the numerous caches, interpreted as ritual offerings, of jade objects; the absence of living refuse in the central site zone lying north of the pyramid; and the unusual pyramid itself are among a longer list that could be cited to support the proposition that the site was built to serve some special purpose. Since the site apparently did not function as a market or defense citadel or manufacturing center or as a place to house a large population, it must have served non-material or intellectual ends. The most impressive items of all at the site are the colossal stone sculptures which include a 34-ton altar, the four colossal heads ranging from 12 to 24 tons, and two so-called stelae weighing 6 and 26 tons. There can be little doubt, it seems to me, that few events in the lives of the San Lorenzo and La Venta populations can have been more memorable than the witnessing or participating in the transporting of these reallyhuge blocks of stone for nearly 70 miles. Many hundreds of persons were necessarily involved in each of these long-range moving jobs, and there were enough of them carried out at both sites during their history for us to suppose that each generation of Olmecs had either seen or participated, or knew from direct report, of a particular stone-moving occurrence. Each of these great stone monuments can be interpreted as the means of memorializing a person who is portrayed in a simple straightforward human form and not with jaguar facial elements. Those persons shown in the colossal heads, standing in front of niches, or as the central person (in one case two persons) on the stelae are, in my opinion, direct representations of members of the authority group at La Venta and therefore leaders of the society of people who built the mounds and transported the multi-ton stones from their distant sources. The La Venta leaders happened, I think, to have chosen to allow us, some twenty-five to thirty centuries later, to see what they looked like. Granted the ritual or religious or ceremonial nature of the site, it is difficult to see the persons portrayed on the colossal stone sculptures as anything but priests. While it is only my impression, I do not see the figures on the La Venta and Tres Zapotes stelae as warriors. They may be, and in this case Bernal is correct in what he interprets as to who the persons are, but I shall prefer to see these persons as religious functionaries. If

there were richly-endowed tombs at La Venta we would have some good data to work with. The probable tombs (see discussion in Kroeber Anthrop. Soc. Pap. No. 33, 1965) are few in number and late in time. Perhaps there is an undiscovered "royal cemetery" at La Venta. Such a place may be the pyramid itself which contains several as yet unexplored stone constructions (Contrib. Arch. Res. Facil., Berkeley, No. 8, 1970). Architecture in the form of palaces or special living preccints at La Venta seems also lacking. If, as appears to be the case, the La Venta site as a unit represents the most substantial evidence of integrated activity of the whole society, then the religion must have been closely attuned to political or secular authority. From this I infer that church and state were one, that priest-kings residing at La Venta were the holders of power in the society, and further, that sites such as La Venta, San Lorenzo and others of their class were the socio-religious-political integrating centers for the rural populations which supported them. In brief, the La Venta site can be seen as the communication center of an interdependent set or series of Olmec socioeconomic population elements ranging from the high priests and their retainers at the center to the dispersed village farmers in the countryside.

I have recently consulted an astronomer who is interested in the matter of Mesoamerican site orientations and put to him the question of the significance of the 8 degrees west of true north alignment of the La Venta site. He has determined a number of possibilities for different times in the first and second millenia B.C. A star 19 1/2 degrees from the pole would set at 18 degrees latitude at 8 degrees west and rise at 8 degrees east on the horizon. Alpha Ursae Majoris (the pointer star in the Big Dipper) would fit here at about 2000 B.C. and Alpha Ursae Minoris, our own Pole star, did so perform about 1200 B.C. Either of these points could have served as the orientation line for the La Venta site, but there is no hint whether any were in fact so used. Another possibility is that some star rising in the east may have been important and the site centerline was laid out at right angles to the east-west line. Now all of this is something less than satisfactory in terms of providing a firm proposal for the astronomical orientation of La Venta, but because so many Mesoamerican sites are aligned mainly north-south, and because there is evidence that the centerline of La Venta was deliberate rather than a matter of topographical convenience, I would argue that there is a probability that La Venta was astronomically oriented. Accepting this proposition, I would argue for the additional probability that the La Venta Olmecs employed an astronomical calendar. Shook in his Conference paper refers to fairly simple kinds of astronomical observatories dating from Middle Preclassic times at Naranjo, Monte Alto and other Guatemalan sites. Shooks' opinion is that such astronomy as was practiced was primarily to keep count of days for the purpose of noting appropriate points in time for agricultural processes such as clearing fields, burning and planting. It is this kind of calendar which I am supposing was employed by the Olmecs. Whether one could call La Venta an astronomical observatory is quite another matter. The great conical fluted mound which rises over 100 feet at the southern end of Complex A at

La Venta would have served admirably as a vantage point to view the horizon to the north. A true horizon sighting would at present require an elevated position such as the pyramid because of the height of the surrounding forest growth. There could, of course, exist an astronomically oriented Mesoamerican site which was, in addition, a true astronomical observatory, without the people who built and used the site having a calendar. Such a site alignment and observatory might in this case merely be essential adjuncts of a solar, lunar, stellar, or planetary cult. But, since we are accustomed to linking Mesoamerican astronomy with a calendar, it is tempting to construe this concurrence as obtaining by 1000 B.C. among the La Venta Olmecs. The San Lorenzo and La Venta sites are, despite many unusual features, still basically Mesoamerican, for here is the pyramid - mound - plaza arrangement, figurines of stone and clay, jade celts, beads and composite earspools, obsidian blades produced with the punch technique, unfired adobe bricks, the jaguar deity and the plumed serpent.

The Mesoamerican calendars served not only to keep track of time, and thus provided a means of determining when seasonal weather changes were approximately due, but more importantly the calendar was the means of fixing the precise time for the observance of specific rituals whose performance was vitally important to the welfare of men. The priesthood with its special knowledge was, therefore worthy of popular support. We can, I think, see this kind of relationship at La Venta. It is possible that Olmec religion was involved with prophecy, eclipse prediction, astrology, divination, and other features which can be readily linked with the calendar, but if so this remains to be demonstrated.

At 1000 B.C. or perhaps several centuries earlier, according to this argument, we have major religious centers at La Venta and San Lorenzo; perhaps also at Laguna de los Cerros and Tres Zapotes. But even at 1000 B.C. we are not dealing with a beginning, but with something already patterned and highly developed. Perhaps the most important ingredient of this pattern is in the priesthood who can be assumed to have been the managers of the religious centers, or the rulers of Dr. Bernal's dispersed cities.

Are the lowland Olmecs of 1000 B.C. proximate to the point in time when a body of men versed in occult matters (perhaps like the weather controllers of the recent Popoluca of the Tuxtla Mountains as described by George Foster) organized themselves into a formal society and entered into a contract, so to speak, with the dispersed villager Olmec population? The priesthood in return for providing religious guidance and the benefits of performing the cycle of rituals could call on the farmers for labor to build the ceremonial center and provide economic support for the religious leaders and their specialist retainers who lived at the center. Whether this happened first in the lowland Olmec country we do not know. Nor do we have any hint about whether the organizing impulse came spontaneously out of such a local population or was due to the successful efforts of outside proselytizers.

But once such a system became operative, and if it was sufficiently productive for the supporting as well as the supported groups, a condition highly conducive of rapid cultural elaboration would have existed. Given the existence of naturalistic stone sculpture, however unelaborate it was; given an existing system of rituals in the form of a ceremonial cycle associated with farming, regardless of how simple or complex this cycle may have been; given a calendar based on readily observable regular movements of the planets or stars of the type known so widely among North and South American Indians, add to this a few other assumed preconditions which would not be unusual among Preclassic farmers, then apply to this set of features the energies of an intelligent and progressive priesthood, and something like La Venta or San Lorenzo might result in a fairly short time. The model for such a process would be a deviation-amplifying system in which the "kick" or impulse was the motivation of the priesthood. Once the feedbacks were placed in operation the calendar could be systematized and refined, sculpture could aspire to megalithic proportions as well as improve in quality because full-time specialists were at work, the ceremonial cycle could expand both in elaborateness and importance in response to the needs of all, and so on. In this fanciful reconstruction of what might have gone on sometime in the second millennium B.C., somewhere in Mesoamerica, a seeding bed for writing could have come to be established. I propose all of this as something which might have happened in this way among the lowland Olmecs. The one thing which does seem to me most probable is that the originators of Mesoamerican civilization were priests rather than military generals or businessmen. Why, if such a sequence of events did take place, it happened first among the lowland Olmecs is the most interesting question of all. We have no information from which we can argue that the lowland Olmecs were better off as farmers and through some economic means got the jump on other Mesoamerican peoples. Nor can one think of any provincial natural resources which they could have purveyed and thus become wealthy and prestigious through the dependence of outsiders on some supposed necessity which only the Olmecs could supply. Nor is there any evidence that the Olmecs possessed a wide-ranging military force, like the Roman legions, which effectively subdued and extorted from subject peoples either ideas or valuable goods. So much of Olmec culture is unique that it looks like a home-grown product. The best proposal I can suggest, at the same time admitting there is no solid evidence to support it, is that there became effective in application some kind of organizational virtuosity covertly expressed in religion among the Olmecs around or just before 1000 B.C. and that this was maintained in good working condition for from five to seven centuries at which time the system broke down. During the half-millennium of lowland Olmec culture climax other Mesoamerican people were developing their own local styles of civilization, but whether these last were taking place through primary or secondary stimulation from the lowland Olmec area we do not know. In part, we lack understanding about this because we are unable to define Olmec influence, both as regards time and directions in which influences travelled. We cannot date the clearly Olmec-inspired rock reliefs in Morelos, Chiapas, Guatemala and El Salvador, not only because they lack clearcut ceramic associations, but

also because these are stylistically rather different from the reliefs occurring on Stela 2 and Stela 3 at La Venta, the only lowland Olmec site to thus far evidence this form of sculpture.

The idea of a New World Oikoumene was specifically proposed in 1948 by A. L. Kroeber and later elaborated on by Gordon Willey (Amer. Anthrop., Vol. 57, No. 3, 1955). We can now begin to see in these terms, and as a result of recent work, something of what was going on in the Middle American nucleus. Prominent participants in the first half of the first millennium B.C. were the Olmecs whose climax development seems to have been reached in southeastern Mexico, and whose impress or influence extended into the Valley of Mexico, Morelos, Puebla, Guerrero, Oaxaca and Chiapas to the west and south, and to Guatemala and Salvador to the southeast. Parsons and Price in their paper written for this Conference have referred to this distribution as evidence for an Olmec "horizon style".

A real problem of interpretation exists in trying to explain the occurrence of Olmec features such as several types of distinctive ceramics, carved jades, and low-relief rock sculptures which are present either singly or in different combinations, over such a wide area. In part we cannot put the Olmec jigsaw puzzle together because the chronological control is imprecise, and we must therefore fall back on stylistic or ceramic comparisons which are, in effect, seriations whose direction or trend can be read alternatively. Bernal has interpreted the available data in terms of seeing sites such as Chalcatzingo, Las Bocas and Tlatilco as settlements of "Colonial" Olmecs, and sites where the "Olmec presence" is less strong as "Olmecoid", meaning that Olmec influence was registered through some as yet not understood means, among which have been proposed missionaries or proselytizers who were exporting the Jaguar Cult, pochteca-like traders, or military expeditions. Parsons has proposed an Early Olmec horizon which was the registration of a rapid diffusion of the Olmec art style, and a Late Olmec horizon which involved local specializations developed from the base of the already diffused and accepted Olmec art style. Parsons' Early Olmec horizon may be what Bernal means by Colonial Olmec, and Parsons' Late Olmec horizon may be what Bernal means by "Olmecoid". I hope that each will comment on this later in the discussion. The question is an important one, because the Metropolitan-heartland-lowland Olmecs at present carry a heavy burden of responsibility as the people who, in Mesoamerica, first synthesized or distilled Preclassic culture into the essence which we call civilization.

The southeastern Mexican Olmec area, at times referred to as the Olmec "heartland", may not be the center of origin and source for the diffusion of Olmec objects, people and ideas, but rather a localized elaboration built upon a base which was very widespread--a base which in other areas provided part of the raw material for such diverse developments as took place in the Valley of Mexico, Oaxaca, and the Maya area. The lowland Olmec zone which we see at present only from the peculiar perspective of the great "dispersed cities" or

"ceremonial centers" was probably not, it seems to me, the nerve center from which were dispatched colonists, traders, or religious proselytizers. If this were so we should expect to find more kinds and larger amounts of outland objects which came back to the administrative centers to be added to the treasures buried as ritual offerings. There is a wealth of valuable materials in the La Venta offerings, but taken as a whole it does not impress me as being formed from the tribute or gleanings of other cultures secured and brought back by Olmec emissaries or troops or far-ranging trade with distant and different cultures. Rather, the La Venta jades look like local products for the most part. A careful comparative analysis of the La Venta celts, beads, earspool flares and other forms, together with an examination (by X-ray fluorescence or neutron activation methods) of the jade mineral itself might produce leads as to the source(s) of the jade as well as indicate the probability of local manufacture as against importation in finished form. Nothing along this line has yet been done. The sequestering of such a great wealth of jade objects in the form of ritual offerings at La Venta once led me to suggest that the site itself may have been equivalent to the "national treasury", or, perhaps better, like the Schatzkammer of a great European cathedral. The burial of the valuable jade objects, on the other hand, may have been a means of stimulating the flow of sumptuary goods by taking them out of circulation and depositing them in a place so sacred and inviolable that they would be safely stored.

There is no way known to me to test the several possibilities of the means by which the La Venta jade was secured. The great site must have been known from afar, and it may have been a pilgrimage place to which travellers came and brought gifts of jade. Or, external trade may have been controlled by the ruling class which was interested in jade because of its rarity.

The excavators of La Venta and San Lorenzo have suggested that the Olmec occupation of these sites ended rather abruptly. Some momentous event, affecting both people and what they did, may have happened in the traditional Olmec heartland area to cause a drastic deculturation about 500 B.C., and this may have been due not to some mysterious disaster or invasion which wiped out the population, but rather to internal disjunctions which might, for all we know, have involved a revolution aimed at relieving the undue pressure of hierarchic power on an oppressed peasantry, provincial rivalries between regional "capitals" or "city states", or a series of calamitous years in terms of crop yield, or a pandemic, or whatnot. Or, some external trigger could have upset the delicate balance of an internally-adjusted power structure which brought the system of Olmec culture to an end. Possibly, having stood as exemplars of how to practice civilization, the Olmecs may have, through the web of the Mesoamerican Oikoumene, communicated the concept of the centralization of power which, in the course of time, was turned against them by other people who had been, so to speak, their students. Given the physical survival of the Olmecs in their lowland home area after their decline from greatness, they may have retained for several centuries enough of their

now-disrupted pattern to still be able to accept new ideas which were feeding back from other peoples in other areas. By invoking this explanation we could account for the Olmec-connected but not Olmec-inspired Tuxtla Statuette and Tres Zapotes Stela C. According to this proposal the Olmec calendrical "correlation problem" may be in part explained. If this was the case, we shall have to revise some earlier conclusions that Olmec culture came to a sudden and full end about the middle of the first millenium B.C. and consider the alternative that when La Venta and perhaps other main ceremonial precints were abandoned the bearers of the esoteric content of Olmec culture survived and maintained some of the older body of special knowledge. I would not be surprised in the least to hear of the discovery of epi-Olmec sites in the Olmec heartland dating from 500 B.C. - 100 A.D.

SUPPLEMENTARY REMARKS

There are uncounted definitions of civilization. We did not discuss in our Conference which definition we could all agree upon, but preferred to leave such specifications up to each person who contributed a paper or commented on one. Perhaps our group should have tried to pinpoint in each area which was considered the instant at which the society moved from pre- or proto-civilization to the level of true civilization. But if we had attempted to do this, we might have had as many answers as participants. Willey alone made the effort to fit the Maya into a general definition, and we call the reader's particular attention to his thoughtful comments on pp. 101-104.

Nearly all definitions of "civilization" are agreed on the point that this development can be characterized by a specific roster of cultural practices and social-political-economic-demographic-technological situations or conditions which, though varied in their enumeration, all manifest a level or degree of sophistication and which do not occur <u>in combination</u> among simpler-cultured societies, whether these be hunter-gatherers, farmers or fishermen.

Many, perhaps most, definitions of civilization coined by historians or anthropologists list some specific qualitative features whose presence is difficult or impossible to prove in ancient times. Let us illustrate this by quoting a definition of civilization which happens to appear in print as this volume is being readied for publication. Bohannan (1971) writes, "There comes a point in [the] continuous growth of culture when those traits emerge that characterize 'civilization': a large enough population to have something resembling an urban agglomeration, a highly developed division of labor with concomitant specialization in a stratified society, food production rather than hunting and gathering, the form of government known as the 'state', a calendar and basic mathematical knowledge, [and] written records.

[Bohannan then adds the comment about this list]: They always go together--and the absence of any of them makes classification as a civilization doubtful."

Bohannan probably would not agree with the majority of the Conference participants that Olmec culture by shortly after the beginning of the first millennium B.C. had achieved a condition of civilization. Population size sufficient to amount to "something resembling an urban agglomeration" can be argued on the basis of the very considerable size of the La Venta, San Lorenzo Tenochtitlan and Laguna de los Cerros sites (cf. Bernal 1969:24, 49-54). The "highly developed division of labor with concomitant specialization in a stratified society" can also be assumed for the Olmecs (Bernal 1969; Heizer 1961, 1963 "Food production rather than hunting and gathering" as the basis of Olmec subsistence seems highly probable since maize agriculture had been known in Mesoamerica for a long time prior to the establishment of the big Olmec ceremonial centers. Existence of the "state" cannot be demonstrated beyond question, but the pronounced centralization of ritual activities which is apparent at the La Venta site does seem to point to the operation of authority of the kind which the State might possess. But here again we are in difficulty, for Olmec society has been interpreted variably as having had the political structure of a "chiefdom" (Sanders and Price 1968:122, 132), a state (Coe 1968:123), or even an "empire" (Caso 1965). An Olmec calendar, body of "basic mathematical knowledge" and "written records" are still more difficult to prove. An astronomical calendar seems to have been in existence at the time La Venta was built and occupied (Hatch n.d.) but bar-and-dot numeration appears too late in the Olmec sequence as presently known (e.g. The Tuxtla Statuette and Stela C at Tres Zapotes) to prove any mathematical knowledge possessed by the Olmecs of La Venta or San Lorenzo Tenochtitlan between 1100-600 B.C. Written records in the usual sense are unknown, but Hatch (op. cit.) has proposed that astronomical "sky maps" in the form of symbols or glyphs inscribed on jade celts were in use, and if this is accepted we have something which is so close to written records as to make the question a semantic one. Of temple accounts, records of rulers in a dynastic line, mythological texts, or the like, we have no hint, so we probably cannot argue that the Olmecs were literate in Bohannan's terms of possessing a true "storage and retrieval" system, unless we accept the "sky charts" as true records. My own feeling is that the Olmecs of La Venta were very close to having writing. The precisely planned layout of the La Venta mounds, and the site centerline with offerings placed directly on or equidistant from either side of it all surely prove a knowledge of mensuration existing by 1000 B.C., and from this one may suspect that the Olmecs at least practiced addition--but of other mathematical practices which would constitute a "body of mathematical knowledge", we have no information. On the whole the Olmec culture as we know it from controlled excavations at San Lorenzo Tenochititlan and La Venta comes pretty close to fitting Bohannan's list of specifications of a civilization--sufficiently near, at any rate, that the Olmecs should have the privilege of applying for admission to this exclusive club.

Gordon Willey in his commentary on Andrews' Conference paper suggests that civilization has three essential dimensions: 1), large population size and density; 2), marked social complexity, and; 3), a complex network of intercommunication among its social components (see also Willey, 1966). Civilization in Willey's view can obtain only with 5000 or more persons as participants. Societal integration may involve either a concentrated or urban settlement, or a dispersed, non-urban settlement. The crucial factor is that the energies and abilities of a population of 5000 or more are drawn upon and integrated to a common purpose. Civilization is further marked by division of labor, a complex ranking system or social classes, by a hierarchial governmental structure, monumentality in architecture, a codified symbolic system such as writing or a pervasive art style, and interregional trade.

In terms of the peak expression of Olmec culture dating from 1100 to around 600 B.C. in the southeastern Gulf lowland, these people stack up pretty well with Willey's criteria. Some of the features listed by Willey have been discussed earlier in testing Bohannan's list of civilizational features. The matter of inter-communication among its social components can probably be demonstrated through long-distance procurement of raw materials used in construction and sculpture, as well as by the proven existence of wide-ranging trade through which means obsidian, and luxury goods such as ilmenite and jade were secured in appreciable quantities. The hierarchical governmental structure is inferable rather than demonstrable, and the argument for priest-kings holding the highest authority has been made elsewhere (Heizer 1961, 1963, 1967:39)-an interpretation objected to by M. Coe (1965: 122; 1967:128) who believes the leaders of Olmec society were "secular lords who drew their power from lineage and conquest". The societal organization of that portion of Olmec society which looked to La Venta as its center (whether manned by religious leaders or secular lords) appears to have been organized along the lines of Willey's "dispersed, non-urban settlement" type, provided the reader agrees with propositions earlier made in this connection (Drucker and Heizer 1960; Heizer 1960; Drucker 1961). The concerted harnessing of the energies and abilities of the population is surely attested by the mere presence of the La Venta site itself, the largest structures being the truncated conical "pyramid" whose cubic mass runs to about 3,500,000 cubic feet, and the Stirling Acropolis whose mass amounts to about 16,500,00 cubic feet of earth. Constructions such as these, while admittedly miniscule when compared to the Pyramid of the Sun at Teotihuacan as Sanders and Parsons (1968:127) have pointed out, need not be denigrated by reason of their magnitude when we remember their early date. Without providing details here, I would now argue that my figure of 1,100,000 man-days of labor needed to construct the La Venta site which was proposed in an earlier paper (Heizer 1960:219) should now be raised to a figure of about 2,500,000 man-days of work, the revised figure being based on new facts about the site which have been learned in the last decade. Finally, as regards the symbolic system such as writing or a pervasive art style, I have

commented above on the possibility that a germinal writing is present in La Venta times, and as far as the art style is concerned, we know it reached in some manner as yet not at all understood, the Valley of Mexico in the north to Salvador in the south--surely a wide enough distribution to be termed pervasive.

This discussion could go on to greater lengths, and might also consider the specifications which other Mesoamericanists have laid down for civilization. If we accept the proposition that the Olmecs of lower Veracruz and northern Tabasco about the beginning of the first millennium B.C. had arrived at a level of social-material-artistic-economic virtuosity sufficient to allow them to be labelled for all practical purposes as "civilized", we can admit them as having fashioned what Bernal calls America's first civilization, the institutors of a special kind of culture which shifted its centers and bearers through time and space and endured up to the time of the Aztecs when American civilization was truncated by the Spanish conquest. The general agreement that Olmec civilization came into focus before that of the Mayas and Teotihuacanos therefore seems to be, in our present state of knowledge, a supportable hypothesis.

References

Bohannan, P.
1971 Beyond Civilization. Natural History 80:50-67. (Special supplement of unnumbered pages).

Caso, A.
1965 Existió un imperio olmeca? Memorias del Colegio Nacional, Vol. 5, No. 3:1-52. Mexico.

Coe, M.
1965 The Jaguar's Children. New York Graphic Society. Greenwich, Conn.

1967 Review of film, Excavations at La Venta. American Anthropologist 69:127-128.

Coe, M.D.
1968 America's First Civilization. American Heritage Publ. Co., N.Y.

Drucker, P.
1961 The La Venta Olmec Support Area. Kroeber Anthropological Society Papers No. 25:59-72.

Drucker, P. and R. F. Heizer
1960 A Study of the Milpa System of La Venta Island and its Archaeological Implications. Southwestern Journal of Anthropology 16:36-45

Hatch, M.
n.d. An Hypothesis on Olmec Astronomy, with Special Reference to the La Venta Site. Manuscript to be published.

Heizer, R. F.
1960 Agriculture and the Theocratic State in Lowland Southeastern Mexico. American Antiquity 25:215-222.

Heizer, R. F.

1961 Inferences On The Nature of Olmec Society Based Upon Data From The La Venta Site. Kroeber Anthropological Society Papers No. 31:43-57.

1963 The Possible Socio-political Structure of the La Venta Olmecs. Aktendes 34 Internationalen Amerikanisten Kongress, pp. 310-317. Wien.

1967 Analysis Of Two Low Relief Sculptures From La Venta. Contributions of the University of California Archaeological Research Facility, No. 3:25-55. Berkeley.

Sanders, W. T. and B. Price

1968 Mesoamerica: The Evolution of a Civilization. Random House, New York.

Willey, G. R.

1966 Postlude to Village Agriculture: The Rise of Towns and Temples and the Beginnings of the Great Traditions. Proc. XXXVI Internat. Congr. Americanists, Spain, 1964, pp. 267-277.