Origins of Central Andean Civilization: New Evidence

In the last few years anthropologists have been making great progress toward an understanding of the slow, gradual shifts in economic practices that lead from small, migratory, hunting and gathering societies to stable, agricultural communities. It is now clear that such transitions occurred independently in several parts of the world. Recent work in the Middle East has given much detail concerning the gradual shifts in man's behavior patterns toward the vegetable world which were ultimately to add up to an effecitve agricultural system based on wheat and other grain crops. For Mexico the ingenious work of MacNeish and his associates, at the Tehuacán Archaeological-Botanical Project, is continuing to illuminate the long period of experimentation from which the efficient pattern of corn, beans, and squash agriculture was to emerge as the basis for Mesoamerican civilization.

Students of the emergence of Central Andean civilization and of the subsistence economy which was the underpinning of that civilization have long suspected that the South American situation was more complex. In spite of the highly relevant work of Bird, Engel, and Lanning on the Peruvian Coast, many questions remain concerning the transition from hunting and collecting to agriculture, and concerning the appearance of the first sedentary, largely agricultural communities in the Central Andes. In the recent literature, one can find widely divergent opinions on a number of basic issues. Some authorities have argued that the essential patterns of Central Andean civilization were already set in their basic form at a very early date, long before any significant influences arrived from the early centers of corn, beans, and squash agriculture in Mesoamerica; others have expressed, with considerable vehemence, the view that there was little or no impulse toward civilization in the Central Andes until the arrival of the Mesoamerican pattern of agriculture along with a healthy shot of religious and iconographic stimulation from the early La Venta civilization of coastal Vera Cruz and Tabasco. Then there is the opinion of the cultural geographer, Carl O. Sauer: Sauer believes that the pattern of sedentary, root-crop agriculture, usually designated as Tropical Forest culture, was very ancient in a number of the riverine environments of the tropical lowlands of South America and was in fact ancestral to the Central Andean pattern of highland agriculture, emphasizing the cultivation of potatoes, oca, ulluca, and quinoa. Sauer's view may be contrasted with the opinion frequently expressed by a number of students of South American culture history that the Tropical Forest pattern was late and largely a pallid derivative of Central Andean civilization.

The appearance of a major monograph presenting quantities of evidence that can be brought to bear on these questions is thus a cause for celebrations among serious students of New World culture history. When such a monograph is also a model of adequacy in its presentation of archeological data, and a first class work of art in terms of publication standards, its significance can scarcely be overstated. **Andes 2: Excavations at Kotosh, Peru, 1960** (Kadokawa Publishing Company, Tokyo, 1963. 218 pp., Illus., $58), by Seiichi Izumi and Toshihiko Sono, with special sections and maps by Fumio Maekawa, Hisashi Sato, Naotsune Watanabe, and Shuko Iwatsuka, is such a monograph.

Andes 2 presents the findings of the University of Tokyo Scientific Expedition at and around the site of Kotosh, near the modern Peruvian city of Huánuco, in the upper part of the Huallaga River drainage system. The importance of the Kotosh site as a manifestation of Chavín was first recognized by the late Julio C. Tello. Tello made some brief comments on the cultural stratigraphy at Kotosh, but no intensive work was done at the site until the 1960 expedition. The Japanese scientists did considerable site surveying in the upper Huallaga drainage area and limited excavations in other sections of the site of Kotosh, but the major part of their energies was expended in an intensive excavation in the largest mound at Kotosh, designated KT. It was the partial dissection of KT that provided the real substance of this report.

The organization of the report is excellent. There is a useful discussion of the geomorphology of the region, and the Kotosh site is related to its geological context. A fine summary of the vegetation zones of Peru is then given, and the Kotosh site is discussed in terms of its ecological setting. Some interesting speculations about the evolution and shifting of these vegetation zones are presented. The description of the excavations in KT and in the section of the site designated as K 3 is condensed, but the wealth of maps and profiles, along with a series of superimposed drawings (printed on semitransparent paper) of the floor plans of the various construction levels, so clarifies the discussion that the extremely complex stratigraphic situation is easily understood. The description of architectural detail and of the various features and burials encountered is terse, but again it is extremely well illustrated and completely adequate to the purposes of the report.

The analysis of the pottery recovered in the excavation of KT is admirable. Superficially the ceramic descriptions resemble the conventional descriptions of ceramic types typical of those found in the reports of American archeologists. Actually the classification is far more succinct and useful in that it presents a statement of the co-occurrence of a clearly defined set of vessel-shape categories, with a clearly defined set of surface treatments and design motifs.

Cultural items other than pottery are grouped into categories of material, and the brief descriptions of stone, ceramic, bone, and metal artifacts are adequate, especially since all of these materials are amply illustrated.

The ceramic chronology is discussed

with clarity. The sampling procedures used appear logical. A refined chronology is developed, and the relationship between the ceramic types and the various construction levels is fully demonstrated. This highly successful exposition is accomplished by concentrating on the rim sherds and decorated sherds, and deliberately ignoring the bulk of plain, featureless, body sherds.

Six periods of ceramic development are distinguished, and the temporal position of each is fully documented. One might question the sharp distinction that the authors have made between the Kotosh Kotosh and the Kotosh Chavín periods because the sherd counts (Table 7) indicate the types characteristic of the first period, Kotosh Kotosh, are more numerous in the levels attributed to Kotosh Chavín than are the ceramics supposedly typical of Kotosh Chavín. The highly distinctive, superbly burnished, ceramics in Chavín de Huantar style, designated "Kotosh Highly Polished" at the Kotosh site, show a marked discontinuity in vessel shapes, and particularly in rim profiles, from all of the other ceramics at Kotosh. Such highly burnished Chavín ceramics show a high degree of uniformity over a wide area of the central and northern highlands of Peru, so high in fact as to arouse the suspicion that all of this material was manufactured at a single center and widely traded to other sites. If this interpretation should prove to be correct, then the Kotosh Chavín period would represent a continuation of Kotosh Kotosh to which quantities of Chavín pottery were traded. This interpretation would explain the high degree of continuity from Kotosh Kotosh to the post Chavín periods, Kotosh Sajara-patac, and Kotosh San Blas, which show remarkably little influence from the Chavín interlude. With the exception of the Chavín period, and the final occupation, Kotosh Higueras, all of the pottery of Kotosh forms a highly coherent tradition in terms of vessel shape, decorative techniques, and design layout.

The summary is very concise, and many of the most exciting implications of the Kotosh materials are neglected or given only the briefest mention. To complain about the brevity of the interpretive section would be ungrateful. This monograph faces and solves the very difficult problem of an ample presentation of the basic archeological data from a site. In this respect the monograph is more successful than any other with which I am familiar, and to demand more would be distinctly unfair. A tremendous number of decorated sherds are illustrated, by photographs and sketches. The photography is so good that the archeologist can "feel" the textures, while the sketches give a clear indication of the relationship between decorative techniques and rim profiles. The precise provenience data is given for all illustrated specimens so that the authors' interpretations can be checked at all points, and new interpretations made from the wealth of primary data. Some have complained about the cost of the publication, but it would seem more germane to observe that no other recent publication on New World archeology offers a basis for cultural comparisons which is half as broad or sound.

The picture of cultural development contained in this monograph is worthy of summary. KT was an accretion of at least ten distinct building phases. Since several of these constructions were clearly religious in function, the locality was evidently an important shrine from the time of the earliest occupation on. By far the most interesting and the best preserved of these structures was the oldest, a large, rectangular room enclosed by heavy masonry walls that were carefully coated with clay plaster. The building stood on a pyramidal foundation some 8 meters in height. The interior room was furnished with niches, and below one of these niches the plaster was modeled into a relief of crossed hands. The remains of llama bones were found within the niches, a probable indication of developed animal husbandry at this early time. In the partial excavation of this structure, made during the 1960 season, no ceramics were found in association. This earliest temple was buried under a mound of stream cobbles and another complex pyramidal structure, with stairways connecting the various levels constructed above it. In this construction level also the 1960 excavations failed to encounter ceramics. The earliest structure, the Temple of the Crossed Hands, had been well preserved within the mound of cobbles, but all of the later rebuildings had been largely razed during subsequent expansions and rebuildings of the mound.

The next two construction levels, designated H and G by the authors, were associated with the oldest ceramic complex at the site, Kotosh Waira-jirca. The Kotosh Waira-jirca occupation is dated by the carbon-14 method to around 1800 B.C. Construction F, associated with the Kotosh Kotosh ceramics, gave evidence of the most intensive utilization of the site. Carbon-14 assay indicates a date of about 1000 B.C. for this level. Quantities of llama bones were associated, indicating a high degree of development of animal husbandry at this time. The Kotosh Chavín period with its quantities of Chavín style ceramics was associated with construction levels D and E. The relevant carbon-14 date is not significantly later than the date for the Kotosh Kotosh occupation. The two final periods within what might be called the Kotosh tradition, Kotosh Sajara-patac and Kotosh San Blas, were poorly segregated in levels C and B of the KT mound, but their chronological distinctiveness is supported by distributional evidence from other sections of the 1960 investigations. The late and relatively crude Kotosh Higueras ceramics are associated with copper ornaments and show a complete discontinuity from the previous cultural tradition at the site. They were found only in level A.

The most startling discovery at the Kotosh site is the elaborate masonry temple, probably dating from earlier than 2000 B.C. The building predates any Mesoamerican structures of a similar complexity by more than 1000 years. There is no direct evidence for the presence of agriculture, but the ecology of the Huánuco basin is not one that would support a labor force of the size implied on a hunting and gathering economy. The evidence suggesting developed animal husbandry at this time has already been cited.

The affinities of the earliest ceramic complex at Kotosh are extremely interesting. By far the closest similarities are with the earliest ceramic complex so far discovered on the flood plain of the Amazon Basin, near the modern Peruvian city of Pucallpa. Kotosh Waira-jirca and the Early Tutishcainyo complex from near Pucallpa share preferences in vessel shape, such as doublespout and bridge bottles; composite silhouette vessels with rounded bottoms, concave sides, and extremely

salient basal angles; and bowls with a sharp, relatively high basal angle and convex, sharply incurving sides. The favored form of decoration in both complexes is zoned hatching, with the hachured areas showing overpainting with red pigment after firing. The two complexes share a number of design motifs and the same general emphasis on design layouts built up from a series of bands of uniform width. That these two complexes are closely related appears highly probable, and the fact that Kotosh Waira-jirca shows a number of ceramic influences from some other source, such as neckless ollas and pattern burnishing, which are completely absent in Early Tutishcainyo, suggests a lowland to highland movement rather than the reverse. In its extensive use of double-spout and bridge bottles; concave-sided, round-bottomed, composite silhouette bowls; and zoned, post-fired painting, Kotosh Waira-jirca also aligns itself with the early ceramics of the southern coast of Peru, the ceramics that form the foundation for the long stylistic continuum through the Paracas style and on into Nasca style.

The earliest indications of influence from Mesoamerica occur in the Kotosh Kotosh period around 1000 B.C. The exact significance of the ear of corn depicted on one of the Kotosh Kotosh bottles has already been hotly debated by Coe and Lanning [M. D. Coe, *Amer. Antiq.* **27**, 579 (1962) and **29**, 101 (1963); E. P. Lanning, *ibid.* **29**, 99 (1963)]. Whether or not the design is specifically La Venta in style, the fact that corn is illustrated is positive proof of cultural stimulation from Mesoamerica. A couple of figurines from the Kotosh Kotosh level (Plate 99d) show stylistic characteristics aligning them with certain early Coastal figurines, such as the one from Haldas, and certain peculiarities of all of these figurines are suggestive of Mesoamerican derivation. The appearance of strong Mesoamerican influence in northern and central Peru between 1200 and 1000 B.C. is hard to deny, but such influence appears about 1000 years too late to explain the appearance of elaborate religious structures and sizable sedentary communities within the Central Andes.

One of the two controversies mentioned at the beginning of this review seems to be definitively settled by the data presented in *Andes 2*. If the Kotosh site were the only one in the Central Andes indicating the appearance of massive ceremonial structures, and large sedentary communities well back into the second or even into the late part of the third millennium B.C., then one might question the evidence more closely and doubt the relevant carbon-14 date. However, much recent work on the central and southern coast of Peru and around the Titicaca Basin, which has been less well publicized and less adequately published, backs up the Kotosh data in these respects [J. H. Rowe, *Ñawta Pacha* **1**, 1 (1963); T. C. Patterson and P. Lanning, *ibid.* **2**, 113 (1964)].

With respect to the second controversy, the direction of the flow of early cultural influences between the highlands of the Central Andes and the tropical lowlands of the Amazon Basin, the data of Kotosh are less emphatic, but they at least suggest that Sauer was basically closer to the truth than were his critics. The earliest ceramics at Kotosh clearly have their closest affinities with ceramics from within the tropical forest region of the Amazon Basin, and I have already cited some evidence that would suggest the temporal priority of Early Tutishcainyo over Kotosh Waira-jirca. Sauer described a hypothetical environment in which Tropical Forest root-crop agriculturalists could have modified their agricultural patterns to the point where they could have progressed further into the colder altiplano: "Some of the tropical tubers, sweet potato and racacha in particular, do well in temperate altitudes, to six thousand feet, or more. My postulated tropical planters, therefore, should have had no difficulty in settling valleys that reached well up into the Andes. For the next stage in the farming colonizations of the Andes, that of the cool temperate zone, new crops had to be found" [Carl O. Sauer, *Agricultural Origins and Dispersals* (1952), p. 50]. It is interesting to note that the location of Kotosh in the Huánuco Basin, part way up the eastern slope of the Andes and at an elevation of about 6000 feet, fits Sauer's hypothetical description perfectly.

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Handbook of Middle American Indians

As anthropological knowledge increases, the need also increases for summaries and handbooks such as those long enjoyed by the older disciplines. But the growth of knowledge also makes the task greater and the result more bulky, as evidenced by this 11-volume series—**Handbook of Middle American Indians** (University of Texas Press, Austin), edited by Robert Wauchope—which will be published during the next five years. Its predecessors were the *Handbook of American Indians North of Mexico* (2 vols., 1907) and the *Handbook of South American Indians,* (7 vols. 1946 to 1959). Anthropologists, scholars in other fields, librarians, and the general public will all be well served by this encyclopedic survey. The ten forthcoming volumes will be devoted to archeology, language, physical anthropology, ethnology, social anthropology, and ethnohistory. Like volume 1, *Natural Environment and Early Culture* (1964, 578 pp., $15), edited by Robert C. West, each will contain about 15 articles on specific aspects of these themes, usually defined geographically, chronologically, or topically. To judge from this first volume the completed handbook will be a