# III. RADIOCARBON DATES FROM COPAN, HONDURAS

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The Maya ruins of Copan, located in western Honduras, lie on the very frontier of Classic Maya civilization. In spite of their peripheral situation, however, few indications of a frontier settlement are evident in the known remains which constitute one of the finest exponents of Classic Maya civilization (1). Extremely fine architecture and sculpture eloquently testify to the brilliance of the Copanec artists while the rich corpus of hieroglyphic inscriptions has frequently been interpreted to mark Copan as an intellectual leader among Maya communities. Although an intensive aspect of the Classic Maya tradition, the material expression of Copan culture is highly distinctive and testifies to the originality of its artists and the sophistication of their patrons. Perhaps the individuality of Copan derives in part from its frontier location even though the cultures beyond were only the palest reflections of the greater Maya splendor. And more likely, the wealth of Copan derived in part from international commerce and from its closely related role as a great center of pilgrimage (the ancient antecedent to Esquipulas?).

Although careful and painstaking research has been carried out in the Copan valley by a number of archaeological expeditions from Carnegie Institution of Washington, and earlier by Peabody Museum of Harvard, the magnitude of the task of recovering Copanec history is so great that many years of work remain to be completed before an adequate knowledge of the valley is obtained.

A preceramic occupation in the valley of Copan has been suggested but thus far remains to be confirmed and elucidated. Preclassic activities in the valley are more definitely established by several battered sculptures of quite early style as well as by good ceramic evidence. Although the nature and extent of the Preclassic occupation remains unknown, it was probably of considerable importance; the general impression of a rather scanty and uncomplicated Preclassic very likely derives from its obscuration and disturbance by the intensity of Classic Period use of the valley. Considerable Early Classic activity in the valley is well evidenced although it is the

fine Late Classic remains which have received most of our archaeological attention, partly because of their great accessibility at the main site of Copan. Although Classic standards of sculptural and inscriptional activity came to an end early in the ninth century, Postclassic occupation of the valley is established but is little known.

Since the ceramic, architectural, and sculptural aspects of Copanec cultural development are so highly distinctive and individual, only generalized features of these traditions can be correlated with the comparable developmental histories defined nearer the center of the Classic Maya heartland, and the basis of a more precise chronology for Copan's history has depended upon interpretation of the Classic period hieroglyphic dates. With this situation in mind, and as no radiocarbon age measurements were available for the southwestern region of Classic Maya civilization, an effort was made to collect suitable carbon samples for dating when R. F. Heizer, P. Drucker, H. Williams, and J. Graham visited Copan briefly during the course of archaeological research in southern Mesoamerica in 1967. Additional samples and data were collected by J. D. Clark and J. Graham in 1969. Our brief researches at Copan were greatly facilitated by the kindness and attentions of Dr. Jesus Nunez Chinchilla, Director of the Instituto Nacional de Antropologia in Tegucigalpa, while financial support and technical assistance were provided by the Archaeological Research Facility of the University of California, Berkeley.

One of the finest examples of Copan architecture is Mound 26 or the "Temple of the Hieroglyphic Stairway." Although only a small portion of the elaborately sculptured sanctuary, or temple proper, has survived, the approximately ninety feet high pyramidal substructure is famous for its magnificent hieroglyphic stairway. In addition to an ornamentation of various fine sculptures, some sixty odd risers of the stairway were carved with hieroglyphs to form the most extensive glyphic inscription to be preserved to us. Morley has suggested that work on the stairway may have begun shortly after A.D. 700 (2), and the epigraphic evidence strongly indicates dedication of the stairway very near A.D. 750. Stela M, erected immediately in front and centered upon the stairway, is inscribed with the certain dedicatory date of A.D. 756 (GMT correlation; Maya Long Count date 9.16.5.0.0).

During archaeological excavations on behalf of the Carnegie Institution of Washington in 1936, Gustav Stromsvik (3) opened a tunnel ("Copan Tunnel 2") through the base of Mound 26 along a west to east axis beginning just south of the hieroglyphic stairway. The tunnel encountered various stages of earlier construction buried by later activities before sloping downward to reach a basal deposit of naturally laid, dark gray fine silt containing some stream cobbles and which apparently represents floodplain deposits of the Copan river. Upon this sterile deposit the tunnel exposed a thin midden level containing sherds, charcoal, and animal bones. Dating of this pre-Mound 26 midden deposit has rested upon Longyear's identification of one or two sherds as "definitely Early Classic" (4).

Our first carbon sample consists of mixed earth and charcoal from the midden exposed at the very end of the tunnel. The radiocarbon age of 1700 ± 110 years, or about A.D. 250, is in excellent agreement with the available archaeological evidence and indicates an early Early Classic date for the sub-mound midden.

Our second sample, UCLA-1420, consists of charcoal removed from a floor matrix beneath, and associated with, the latest interior architecture exposed by the tunnel. The measured radiocarbon age of 1200 ± 70 years is to be adjusted to A.D. 600, 700, or 800 to correct for secular variations (5). Based upon stratigraphy, UCLA-1420 should date later than the pre-mound midden deposit placed at A.D. 250 ± 110 years by our first sample; similarly, it should date earlier than the age of the final construction of the hieroglyphic stairway which was completed about A.D. 750. Thus, the age of the second sample seems best at A.D. 600, with A.D. 700 being possible but less probable, and A.D. 800 being impossible.

In conclusion, the radiocarbon age measurements reported here are the first to be obtained for archaeological materials from the Copan area. Their ages are in excellent agreement with the current archaeological chronology and interpretation of Classic period Copan history. In addition the sample UCLA-1420 provides evidence from the southwestern corner of the Classic Maya realm bearing upon the European-Maya calendar correleation. With Stela M

securely dated at 9.16.5.0.0 in Maya chronology, a 12.9.0.0.0 or Spinden ("type A") correlation placing Stela M at about A.D. 500 is definitely incompatible with the indicated age of the latest pre-hieroglyphic stairway substructure architecture. The radiocarbon age is in agreement with an 11.16.0.0.0 or other later equation (6).

## Bibliography and Notes

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