



**From the bottom.** Archaeologists uncovered the roots of Maya plazas and platforms at Ceibal.

## ARCHAEOLOGY

# Deep Dig Shows Maya Architecture Arose Independently of Olmec's

The origins of the Maya civilization remain one of archaeology's longest-running mysteries. The Maya continually renovated their imposing pyramids and plazas, burying the earliest architecture under thick layers of stone. So researchers have long struggled to answer a basic question: Did the Maya inherit much of their civilization from the Olmec people in southern Mexico, whose first major ceremonial center, San Lorenzo, arose around 1400 B.C.E.? Or did Maya civilization arise in a more complex way, through interactions with many societies in the region, and only a small helping hand from the Olmec?

A study published this week in *Science* (p. 467) on new data from the Maya city of Ceibal in Guatemala strongly suggests that one key element of Maya civilization—the arrangement of urban ceremonial space—owed little to the Olmec. In a major dig, a team led by archaeologist Takeshi Inomata of the University of Arizona, Tucson, discovered the remains of a ceremonial core, including formally arranged platforms and a plaza, dating to 1000 B.C.E. The platform arrangement is the oldest known standardized ceremonial compound in Mesoamerica—and it predates the first appearance of such architecture among the Olmec. Early Maya may have used the platforms as a stage for ritual performances, and they later transformed this architecture into the Maya lowlands' first plaza and pyramid complex—a hallmark of their later civilization.

The formal spatial plan reveals the Maya's early sophistication, says archaeologist Francisco Estrada-Belli of Tulane

University in New Orleans, Louisiana. The study “really opens the door to the idea that the Maya were not the recipients of cultural influence from [the Olmec], as has been suggested,” he says.

The Olmec lived in Mexico's Gulf Coast region, and carved massive human heads—likely portraits of rulers—from 20-tonne



blocks of basalt. The Maya took up sedentary living after the Olmec did, around 1000 B.C.E.—about when the Ceibal complex was built.

Inomata and his team were drawn to Ceibal by the findings of Harvard University archaeologists who discovered very early Maya ceramics there in the 1960s; they also found a later arrangement of ceremonial space that resembled layouts found at the Olmec capital, La Venta, and at early

sites in Mexico's Chiapas region (see map). To examine the origins of this spatial plan, Inomata's team opened major excavations at Ceibal in 2005.

Sinking 12-meter shafts and tunneling below pyramids, the team discovered Ceibal's earliest public architecture: a plaza containing ritual deposits of greenstone axes; an earthen platform that may have held an elite residence; and parts of a characteristic architectural arrangement called an E-group assemblage—a square platform in the west and a long platform aligned north-south. Radiocarbon dating showed that this ceremonial core was built during a transitional period, between the fall of San Lorenzo around 1150 B.C.E., and the rise of La Venta, around 800 B.C.E.

Because San Lorenzo lacks large mounds and pyramids and the later La Venta has a pyramid and plaza complex, Inomata suggests that this kind of ceremonial compound emerged during a time of social ferment when the Maya and many other Mesoamerican groups, including those in the Chiapas area and along the Pacific coast, were communicating and experimenting with new ideas and social orders. “I’m not saying that Ceibal was the origin [of the new architecture], but it was part of a new movement in a broader area,” he says.

The dating evidence is sound and “overwhelming,” says archaeologist Michael Love at California State University, Northridge. Unpublished results from other sites point in the same direction, he adds.

Not everyone is ready to abandon the model of the Olmec as the major cultural source of the early Maya, however. The new research strongly suggests that the idea of E-groups did not come from La Venta, agrees archaeologist John Clark of Brigham Young University in Provo, Utah. However, such formally arranged ceremonial architecture could still be discovered at San Lorenzo, he says.

Inomata agrees that more excavation is needed but says the finds at Ceibal shed important new light on the early days of Maya civilization. “When some people think about the emergence of civilization, they think of the development of writing and kingship, but this form of spatial organization, and the social organization it implies, probably plays a really critical part,” he says.

—HEATHER PRINGLE

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