

## New Light on Writing in the Americas

*The discovery of a remarkable—and puzzling—new pre-Mayan writing system has added a new piece to the puzzle of how writing originated in the Americas*

IN LATE 1987, FERNANDO WINFIELD Capitaine, then director of the Museum of Anthropology in Xalapa, Mexico, announced a startling discovery: the recovery from the Acula River of a 6-foot-high, 4-ton basalt monument on which a lengthy hieroglyphic text had been inscribed. A peasant from the nearby village of La Mojarra had apparently discovered the stela accidentally—by stepping on it while crossing the river. The stela, which must have fallen into the water centuries before, now stands as a single, massive clue to a forgotten chiefdom that once graced the river's shores.

Hieroglyphic inscriptions are known throughout Mesoamerica, particularly from Maya temples and stelae. But the La Mojarra Stela, as the new monument is called, reveals a writing system that epigraphers (people who decipher hieroglyphics) had previously seen on only a handful of artifacts, including a duckbilled statuette, potsherds, a ceremonial mask, and broken monuments. Now here, in stunning array, was a full inscription of 520 hieroglyphics surrounding the elaborately carved figure of a king.

This text was of a sophistication to match anything the Maya carved. (Only two known Maya texts are longer.) Even more surprising was its date: The text includes two dates from the Mesoamerican Long Count Calendar, A.D. 143 and 156—nearly 150 years prior to known Maya inscriptions of equal length.

"We'd thought that the Maya were the only ones who had a fully developed writing system until the La Mojarra Stela was pulled out of the river," says Kathryn Josserand, an independent Maya scholar based in Texas. "As soon as its script was published and we saw that it was related to these earlier texts [in the La Mojarra script], everybody jumped."

Ironically, in a power struggle at the Xalapa museum, the museum's new director has labeled the stela a fraud and packed it

away in the basement—possibly, insiders say, to discredit his predecessor. But in this country, all experts believe the monument is genuine, and its discovery has stirred up a field that was already in ferment: the origins of Mesoamerican writing.



The La Mojarra Stela

hasn't by any means told the experts how written language arose in the Americas. But it has added another interesting piece to what has become a very complex mosaic. In fact, scholars now suspect there must have been many sophisticated local writing traditions before the Maya. And in one of the most exciting aspects of recent work, scholars have now begun to zero in on the conditions under which such systems arose. They have started identifying the shorthand iconographic systems from which writing evolved and the specific social conditions—such as social stratification and religious forms of kingship—that gave rise to written language.

Much of the current activity was stimulated by the great strides epigraphers have made in the last decade in deciphering the hieroglyphics of the Classic Maya (a term used for the high point of Maya civilization,

from approximately A.D. 200 to 900). Researchers now know that the intricate hieroglyphics, once regarded simply as an elaborate form of iconography, are actually a historical record of Maya dynasties. On their monuments, the Maya recorded births, marriages, and deaths of kings and queens—along with battles fought, captives taken for sacrifice, and blood-letting rites by leaders.

And for every event, they recorded the date. The Maya now stand as the earliest people in pre-Conquest America with a recorded history of their own. Or, at least, a history researchers can now read. For the Maya were not the only Mesoamerican people busy recording the important events of their times, as the La Mojarra Stela attests. It is clear that the elaborate Maya writing system evolved from precursors, although the evidence for those earlier cultures remains slim.

What epigraphers do know is that by about 500 B.C. there were already two writing traditions extant in Mesoamerica: the Oaxacan and the Southeast-

ern. The Oaxacan tradition arose in the central Mexican highlands, the Southeastern, in the Isthmus and Yucatan. The Oaxacan script may be the oldest, since one stela from the site of San José Mogote dates to between 700 and 500 B.C. But the Southeastern traditions (termed Isthmian and Izapa-Mayan) appear shortly thereafter (at an Olmec site on the isthmus and in the highlands of Guatemala) and in time blossom into the complex writing of the La Mojarra and Classic Maya peoples.

From initial studies, researchers believe the La Mojarra Stela is most closely related to the Isthmian system, while the Maya hieroglyphics resemble those from Guatemala. Whether the Oaxacan and Southeastern writing traditions had a common ancestor depends on which epigrapher you ask. "It could go either way, though I personally think there was one precursor," says

### Engraved in stone.

*This puzzling stela, discovered accidentally near the town of La Mojarra in Mexico, stems from a previously unknown—but highly sophisticated—writing tradition.*





Peter Mathews, an epigrapher at the University of Calgary in Alberta. "But because the two traditions are so different in style and are found at sites so far afield, writing must have been evolving in Mesoamerica for some time.

And all of these early hieroglyphics can be traced to symbols inscribed on jade and serpentine celts (ceremonial axes) that were used in rituals throughout Mesoamerica. Many of these inscribed celts were made by the Olmec peoples, who settled the Gulf Coast region near Veracruz about 1200 B.C. The Olmecs (as well as other Mesoamerican cultures) developed a rich iconographic system, carving elaborate snakes, earth-monsters, and sharks on their stelae, and sculpting boulder-sized busts and bas-relief portraits of their leaders.

"These were warts-and-all portraits; they even sculpted some rulers with buck teeth," says Kent Reilly, a Mesoamerican prehistorian at the University of Texas in Austin. "Perhaps the Olmec carved such distinct portraits because they were the first to have hereditary leadership, so individual characteristics were important to them."

And these individual portraits of rulers—a sort of Mesoamerican National Portrait Gallery—bear a special relationship to writing. Sometimes the sculptured head was topped with a headdress bearing a symbolic motif—motifs that David Grove, an archeologist at the University of Illinois in Urbana, has identified as naming devices. "In several cases, you can see they're portraying the same person because of the physiognomy and the motif in the headdress," says Grove.

In other Olmec carvings dating to 1000 B.C., rulers are shown seated before symbolic entrances to the underworld. The link between such symbolism, the ruler, and the eventual development of writing is a natural, says Grove: "He's the society's tie, the link with the supernatural. He's the focus of their universe, the person who can communicate with supernatural forces that affect agriculture, weather, disease. The carvings and iconography communicate this power and help legitimize the ruler's claim to the throne."

Similar messages are conveyed on pottery, celts, and other portable stone objects dating from 900 to 500 B.C. But instead of portraying the ruler in detail, these inscriptions show parts of his body—for example, the lower half of the body seated on a throne, or two rulers' arms clasped in greeting. Such iconography (carved not by the Olmecs themselves, but by later peoples in the same cultural tradition—people whom some archeologists refer to as Epi-Olmec) wasn't writing as we know

it, says Michael Coe, an archeologist at Yale University. "They were using a sign system—what's called *pars pro toto*, where a part stands for the whole—which transmitted information of a religious-political nature. But it's not writing. It's more like a road sign system that can be read by anyone, whether you speak English or Swahili." The key difference between this and writing? Says Coe: "It was not tied, as the Maya hieroglyphics are, to a particular language."

Coe and others argue that it was from such shorthand iconography that Mesoamerican writing developed—a step that occurred as the earlier villages were organized into chiefdoms and then states. "Writing grew out of the traditional religious symbolism," says Coe. "It came at a time when the society was becoming more urbanized, when the population was growing, and the elites needed to express themselves, to record their deeds and dynasties as a way of legitimizing their role in society."

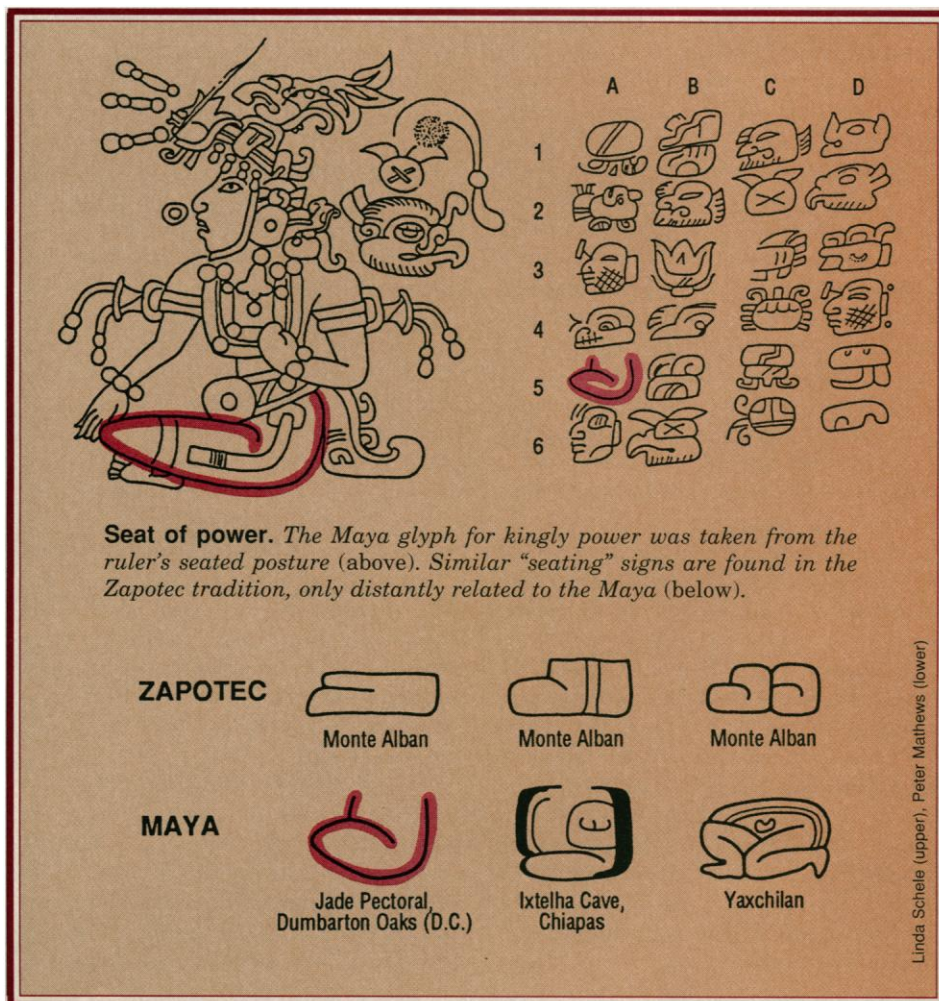
Although the abbreviated icons on the hand axes did not constitute writing, they were stylized, abstract renderings of ideas. "The symbols on the celts differ from normal iconography because you could segment out the significant parts," explains

John Justeson, a linguist at the State University of New York at Albany. "If the significant thing was a greeting or a corn-casting ceremony, then you could just show the hand performing the gesture, while above it you could inscribe symbols that showed the ruler's identity and rank."

Such symbols were sometimes inscribed in a linear fashion, as if the scribe had named the ruler first, then described the action he was performing. This system might have provided a good jumping-off point for the elaboration of a writing system. "It was not too far from this precursor system of iconography to writing," says Justeson. "All they had to do was standardize the size of the symbols and their format."

They also had to give the symbols linguistic meaning, to tie them directly to their own language—a step Justeson believes they made via their 260-day ritual calendar. Apparently invented about the time the Epi-Olmec peoples began inscribing their celts, the calendar used bars and dots to represent numerals, and icons (typically animals and plants) for the days: A calendar entry might read "3 Deer" or "10 Jaguar."

It was this specific juxtaposition of numbers and icons that Justeson believes led to



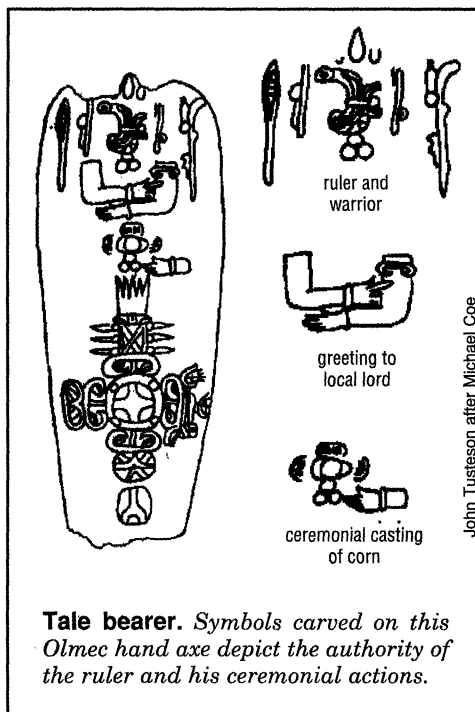
writing. "In the date '3 Deer,' you have two different ideas being represented," he explains. "There is the idea of 'Deer' and the idea of '3.' In a purely iconographic system, you can only express this by drawing pictures of three individual deer. But that does not give you a linguistic, word-for-word representation of '3 Deer.' To represent '3 Deer' linguistically, you only need two symbols."

By joining their numeral 3 with a symbol for deer (which may have been derived from the segmented icons on the celts), the early Mesoamericans discovered a way to depict the date "3 Deer" exactly as it was spoken in their language. Thus, the Oaxacan stela at San José Mogote (currently the earliest known example of this stage of Mesoamerican writing, dating to between 700 and 500 B.C.) bears the date "Earthquake 1"—precisely the word order used by the Zapotec-speaking peoples of Oaxaca. In Maya languages, however, numerals precede day-names, and the hieroglyphic order for this date was reversed: "1 Earthquake."

Once the Mesoamerican people began to give linguistic meaning to their iconography, they were well on their way to developing what many researchers consider a fully developed writing system—one incorporating phonetic elements, grammar, and punctuation. "Phonetic elements were probably added when the iconography wasn't sufficient for representing a word," says Justeson. "For example, in Egyptian hieroglyphics, the symbol for 'ear' can mean 'ear' or 'listen' or 'pay attention.' By adding phonetic glyphs to this icon, the scribe specified how the symbol was to be read."

The Maya expanded their hieroglyphics in a similar fashion, adding phonetic and semantic markers at the beginning or end of a glyph to clarify the text. Eventually, the Maya developed purely phonetic spellings that were used along with logographs. Ironically, although the Zapotec-speaking peoples of Oaxaca may have been the first to use a hieroglyphic system—700 years before the Classic Maya—they made little use of phonetics (some researchers would argue they used none at all) and never wrote lengthy texts.

Justeson argues that the monosyllabic Zapotec language is "not conducive to phoneticism, so they relied on logographs, which like Chinese script, can represent any language. But this is also its strength; anyone can use it." In fact, the Zapotec script was adopted by the Mixtec peoples—just as the Japanese adopted the Chinese script. The Zapotec inscriptions typically record the number of captives taken by a particular warrior, on a particular day, and at a particular city.



**Tale bearer.** Symbols carved on this Olmec hand axe depict the authority of the ruler and his ceremonial actions.

"These are essentially sculptures that have been name-tagged," says Linda Schele, a Maya epigrapher at the University of Texas in Austin. "There seems to be a verb, a name glyph, and a place glyph." Partly because of the short inscriptions and the limited number of surviving texts, Zapotec script remains largely undeciphered. In contrast, Mayan epigraphers now estimate that they can translate (and read in modern-day Cholan or Yucatecan, descendants of the ancestral Maya language) some 90% of all Classic Maya texts.

The Maya carved their inscriptions on the lintels and doorjambes of their palaces and temples, on rulers' tombs, and on monuments and stelae placed in the main plazas. And, like the Olmec peoples before them, the Maya used their inscriptions to legitimize the power of the elite. "I think one of the reasons why writing became so important in Southeastern Mesoamerica was that kingship was always shamanistic," says Schele. "The king himself becomes the prime shaman. To prove he holds the power, he has to perform blood-letting rituals and make journeys to the other world. The monuments record these rituals and journeys in a public, verifiable way—somewhat like records and tapes now provide us with permanent recordings of great musicians' performances."

Epigraphers suspect that, like many Maya stelae, the monument from La Mojarra is a record of the events in the life of a ruler. The stela's iconography and hieroglyphic structure are also reminiscent of the Maya. But the writing itself is intrinsically different from Classic Maya script, and may represent a language of the Mixe-Zoquean family,

rather than a Maya language. If so, this stela may be more directly related to the earlier Olmec peoples, who also spoke a Mixe-Zoquean language.

The La Mojarra and Maya hieroglyphic systems might then be "cousins, or an uncle and a cousin," says Martha Macri, a linguist at the University of California at Davis and one of the epigraphers bent on deciphering the new text—a task she readily admits will be impossible unless additional examples of this script are found (since the few other examples do not provide sufficient clues for breaking the code). "Right now, we're trying to determine what kind of writing system this is," says Macri. "It looks like there is a set of core glyphs that are very stylized, very geometric. And that, to me, indicates a high degree of phoneticism, perhaps more than the Maya had. It's almost as if they were using letters, not alphabetic but syllabic, and it seems they separated the text with symbols that acted like periods."

The lack of other texts written in the same symbolic system to compare with the La Mojarra Stela has been one hindrance in deciphering what clearly is an important piece of the Mesoamerican linguistic mosaic. Then there is the other unfortunate hitch: the declaration that the monument is a fraud. Because of this, scholars wishing to study its hieroglyphics must rely on published accounts of the stela. Which is a shame, because researchers here have no doubts that it is genuine. "If it's a fraud," says George Stuart, a staff archeologist at the National Geographic who has studied the La Mojarra monument firsthand, "then whoever did it deserves an emeritus chair at Harvard."

What's needed to remove absolutely this cloud of suspicion is the discovery of similar monuments at La Mojarra, says Richard Diehl, an archeologist at the University of Alabama in Tuscaloosa, who is planning an expedition to find just such samples. Additional examples might settle other perplexing questions as well. "Why do you have such a lengthy text so early in the history of writing in Mesoamerica?" asks Diehl. "Why is it so long, and why is it to be read so differently—from the center out—than these other scripts? And why was it found out in the middle of East Jesus? It's a piddling little archeological site by Mesoamerican standards. Yet here we have this wonderful monument and incredible text. What happened at La Mojarra?" Answering that question may take scholars a step closer to understanding how writing originated in Mesoamerica. ■ VIRGINIA MORELL

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