

Maya Hieroglyphs

A History of the Decipherment

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To those familiar with the decipherment of Egyptian hieroglyphs and Babylonian or Assyrian cuneiform, the lack of progress in the reading of Maya hieroglyphs

must seem strange. The language has not died out; it is still the native tongue of more than a million people in Mexico and Central America. Moreover, Maya vocabulary, grammar and diction patterns have been scrupulously recorded in dozens of modern ethnographic and linguistic studies. There exists an ex-

tensive 16th and 17th century Maya literature written in European letters, for example, the *Chilam Balam* books from Yucatan and the *Popol Vuh* from Guatemala. Such aids might have made decipherment much easier than for the extinct Old World languages, but they did not.

If I were commissioned to design a Maya monument dedicated to the history of decipherment of Maya hieroglyphs, I would inscribe it with three important dates: 1566, the year in which Diego de Landa is thought to have written in Spain his *Relación de las Cosas de Yucatan*, our only approximation to a Rosetta Stone; 1886, the year in which Ernst Förstemann in Dresden first read Maya dates; and 1960, the year Tatiana Proskouriakoff demonstrated from Cambridge, Massachusetts, that the Maya inscribed the life histories of their kings.

The Early Decipherers

Diego de Landa (Fig. 1) arrived in Yucatan in 1546 as a Franciscan friar of 25. This was the same year in which the Spanish king repealed all the laws protecting the Indians which had been passed only four years before through the work of Bartholomeo de las Casas, and the year in which Yucatan was finally conquered. Landa lived many years in Yucatan, building churches and monasteries, preaching, converting. He was elected head of the Franciscan Order in Yucatan and then, in 1562, held an elaborate inquisition or *auto-da-fé* in the town of Mani, in which he extracted by torture confessions of idolatry and child sacrifice. He says himself that

he also ordered many ancient Maya books brought together and burned in the town square. The first bishop of Yucatan, arriving from Spain that same year, was furious with Landa for conducting the inquisition without proper authority and accused him of accepting false testimony. Landa resigned, traveled to Spain and, apparently with voluminous notes, wrote a long account of Maya culture which justified his actions.

Landa cited the influence of the native priesthood through their books and writing system in his defense, so he devoted several pages to the calendar and examples of hieroglyphic writing. In reality, none of the glyphic signs which survive are his, but those of a copyist working around 1616. Landa gave us what he termed an alphabet (Fig. 3)—it is actually a partial syllabary matching the spoken sounds of the Spanish alphabet. He also attempted to write three words in hieroglyphic signs (Fig. 4). The first is a clumsy writing of the Spanish letter *L*, pronounced *ele*. The second is the Maya word *ha*, meaning water. The third is the Maya word *mainkati*, which he correctly translates as "I do not wish." This third example he labeled a syllabic writing, which it is. Of great importance for decipherment is the fact that Landa also drew out all 20 day signs and 19 month signs of the Maya calendar, writing down the names they were called in Yucatan and putting them into proper order.

Copies of Landa's *Relación* were kept in archives in both Yucatan and Spain and were used by 16th century historians of the conquest. They were gradually forgotten as colonialism tightened its hold on the Maya people and their past, and only in 1864, nearly three hundred years later, was the manuscript published. By then, inscriptions at the Maya ruins of Copan, Palenque and other sites had been copied and published with some accuracy, and the folded bark-paper

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Facsimile of page 50 of the Dresden Codex (from Thompson 1972; reprinted by permission of the American Philosophical Society).



1 Diego de Landa in ca. 1559 (from Tozzer 1941; reprinted by permission of the Peabody Museum, Harvard University).



Maya books in Dresden, Madrid, and Paris had been recognized as Maya.

Decipherment of the Old World scripts usually depended on the discovery of an inscription which says the same thing in two or more scripts, such as the Rosetta Stone in which two forms of Egyptian writing are followed by Greek, and the Behistun cliff inscription in Babylonian, Elamite, and Old Persian alphabetic cuneiform. Landa's sketchy drawings, made almost incidentally and with no real interest in accurate communication, are by no means as useful as these long monumental texts, but they do constitute virtually the only overlap we have between the Maya hieroglyphic writing system and any other. And Landa's manuscript was not itself enough to crack the code.

The story now shifts forward to 1886. Ernst Förstemann, a philologist, was already known for studies of German place-names when he was appointed Librarian of the Royal Public Library in Dresden. The library possessed one of the three or four surviving Maya hieroglyphic codices. (A sample table from the Dresden Codex is reproduced in Fig. 2.) He published in 1880 a photostatic edition, and in his introduction, he reviewed the frustrated attempts to apply Landa's alphabet in its translation. His correct conclusion was that little had been accomplished, except for Leon de Rosny's recognition of the signs for north, south, east, and west, made with no help from Landa's *Relación*. Förstemann's genius was that he was able to turn away from the seductive Landa alphabet with its promise of a complete phonetic reading and focus instead on the numbers and calendric signs which make up the bulk of the manuscript. Sometimes this narrowing of vision is the essential element in an important scientific breakthrough, and it proved to be so in this case.

In 1986 we celebrate the centennial anniversary of the publication of Förstemann's monograph entitled *Erläuterungen zur Mayahandschrift der Königlichen öffentlichen Bibliothek zu Dresden (Explanations of the Maya Manuscript of the Royal Public Library in*

Dresden). Most of his work was translated into English because of its importance, but that pioneering study, as far as I am aware, remains only in German, and deserves far more attention than it has received. It is dedicated by Förstemann to two centennial dates: the removal of the Royal Library to Dresden in 1586 and its installation in the Japanese Palace in 1786. Without knowing of the Maya fascination with anniversary notations, he seems unconsciously to have been attuned to a similar thought pattern.

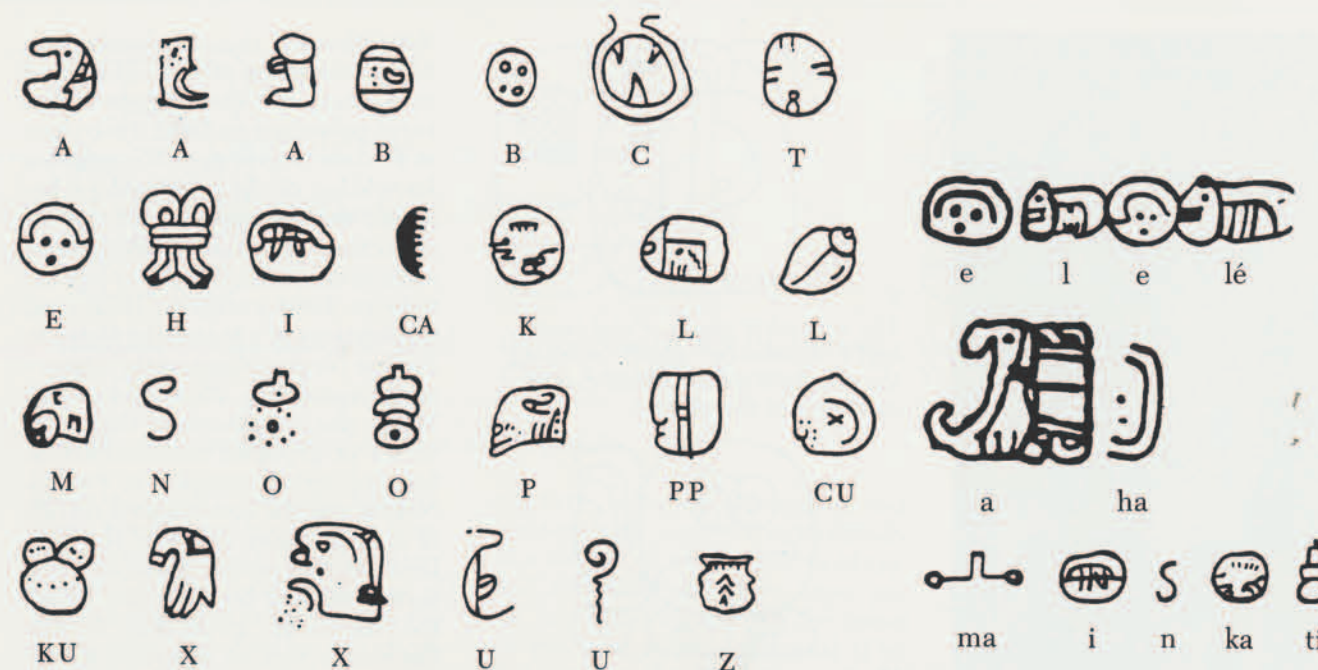
The Dresden Codex (Fig. 2) contains many columns of bar-and-dot numerals. The columns of numerals are bracketed by day signs and month signs, whose order was given by Landa. Using these, Förstemann proved that: 1. a dot stood for one and a bar for five, even though Landa lists no such numerals; 2. the numerals would count the days between one date and another if the lowest numeral is made to stand for units, the second from the bottom for twenties, the third for an approximate year of 360 days and the fourth for 20 of those years; and 3. the lens-shaped signs in the columns of numbers stood for zeros. Thus, he demonstrated beyond any possibility of coincidence that the number columns spanned the time distances between the written day and month positions. The columns are the basis of the whole Maya dating system: the Long Count or Initial Series notations which the Classic period Maya put on their monuments to mark the 400 year, 20 year, year, month, and day counts of their era (Fig. 5). With them, scholars were quickly able to read most of the dates on the monuments, to describe the development of the art which accompanied the texts, and to place Maya archaeology on a firmer chronological basis than any other New World sequence.

Most of the epigraphic study of Maya writing during the succeeding three-quarters of a century focused on these numbers and dates. The mathematics of the lunar notations were figured out by John Teeple in the 1920s and that of the nine Gods of the Night soon after-

ward by J. Eric S. Thompson. The period also saw foot-slogging exploration for new inscriptions throughout the lowland jungle areas of Guatemala and eastern Mexico. Calendrical information was so heavy a focus that scholars would often not even bother to draw or record the glyphs between the dates. Sylvanus G. Morley, who earlier in *An Introduction to the Study of Maya Hieroglyphs* (1915) had correctly surmised that the monuments must recite the historical deeds of the noble personages which they portray, had by 1946 come to the mistaken conclusion that the glyphs were instead non-historical observations on time and astronomy.

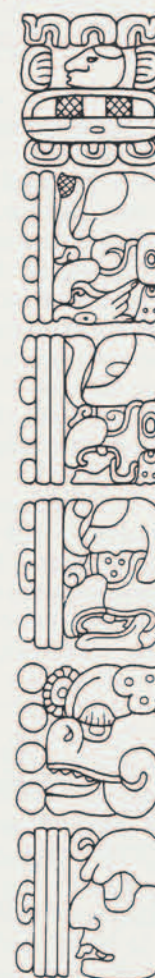
Landa's alphabet was practically abandoned as further attempts to apply it to translation failed, partly because many of the glyphs are clearly ideographic, standing for whole words rather than for syllabic or alphabetic segments. For example, the same prefix appears in the month signs called *Yax* and *Yaxin* by Landa (Fig. 6), indicating beyond much doubt that the sign stood for the whole Yucatec Maya word *yax*, meaning new, strong, green/blue. The same ideographic readings were required for single-sign month glyphs named by Landa, *Zotz* (bat), *Xul* (dog) and *Pop* (mat). These ideographic successes in reading led many Mayanists to another major error, the conclusion that the Maya had not developed phonetic writing. Now we know that they did, but it took the third pivotal breakthrough in 1960 to accumulate enough solid evidence to prove it.

In 1936 a young graduate in architecture from Pennsylvania State University knocked on the office door of Dr. Linton Satterthwaite, director of the University Museum's excavations at Piedras Negras in Guatemala. She had originally gone to the Museum's Classical Archaeology section and had been told that Satterthwaite was looking for a draftsman. She worked for two seasons at Piedras Negras (Fig. 7), surveying and drafting, and started on the perspective drawings which eventually appeared in her famous *Album of Maya Architecture* (1946). With



3 Landa's 1566 alphabet of Maya hieroglyphic signs, actually a selected syllabary.

4 Three Maya hieroglyphic words and their alphabetic equivalents given by Landa in 1566.



5 A Maya Initial Series or Long Count date.



yax kin n(a) Yaxkin, the seventh month, (with a "tail" suffix to phonetically reinforce the final "n" sound).

yax Yax, the tenth month (with the cauac main sign perhaps referring to a storm month).

6 Ideographic decipherment of two month signs.

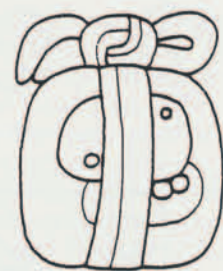


7 Tatiana Proskouriakoff at Piedras Negras, 1936.



8 Piedras Negras Stela 14, an accession scene monument, showing an 8th century Maya ruler newly seated on his throne. This was a key aid in the decipherment of historical statements in Maya hieroglyphic inscriptions.

9 The accession glyph, Proskouria-koff's "toothache" glyph, marking the dates on which Maya rulers ascended to the throne.



10 The seating glyph, a variant accession marker.



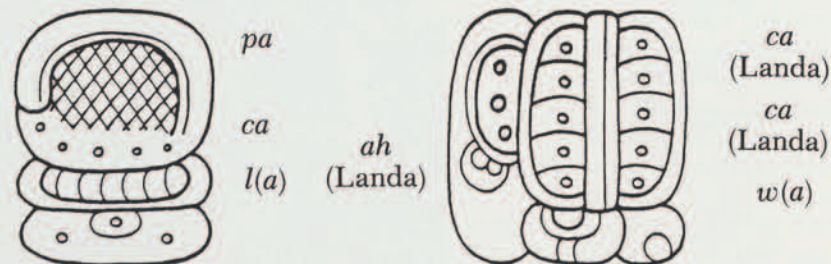
11 Proskouriakoff's "up-ended frog" glyph, marking the ruler's birth date.



12 The capture glyph, marking the day on which the ruler made an important capture in battle.



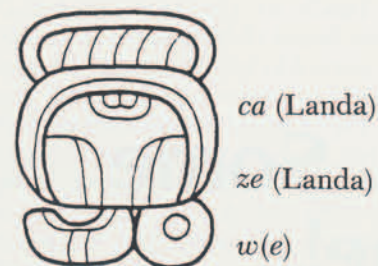
13 The phonetic decipherment of two rulers' names: Pacal of Palenque and Ah Cacau of Tikal.



Satterthwaite she also worked on Maya calendrics, which culminated in *A Study of Classic Maya Sculpture*, published in 1950. Her years at Piedras Negras gave her intimate knowledge of the relationships between the inscriptions and the architecture in front of which they were positioned, leading to her article in 1960 entitled "Historical Implications of a Pattern of Dates at Piedras Negras, Guatemala" (*American Antiquity* 25(4):454-475). Here, she hypothesized that each series of grouped monuments in front of certain temples at Piedras Negras was the accumulated record of a single ruler and that the earliest contemporary date of each series, marked by what she called the "toothache" glyph (Fig. 9), was the ruler's date of accession to the throne. She pointed out that the first monument of a series was often carved with an accession scene accompanied by the toothache glyph and date, as is the case of Piedras Negras Stela 14, in The University Museum (Fig. 8).

This historical hypothesis redirected the study of Maya writing as profoundly as had Förstemann's. Suddenly solid bits of biographical information about the rulers could be derived from such features as the pose and costuming of their carved portraits. Proskouriakoff went on to recognize other event glyphs such as the seating variant for accession (Fig. 10), the "up-ended frog" glyph for birth (Fig. 11), and the capture glyph (Fig. 12).

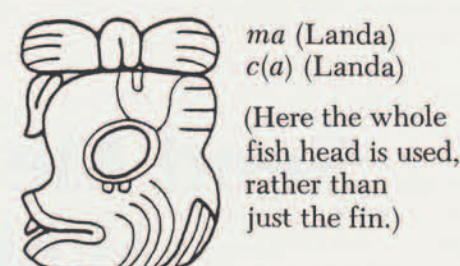
Decipherment—Förstemann through Proskouriakoff—did not have a phonetic base. The meanings of hieroglyphs were discovered logically through their positions relative to signs whose



the fifth month, *Cazeu* in Chol, *Zec* in Yucatec



the fourteenth month, *Uniu* in Chol, *Kankin* in Yucatec



the thirteenth month, *Mac* in Yucatec

14 The phonetic decipherment of three month glyphs.

meanings were already known. Thus Förstemann's numbers were comprehended only because they counted consistently from one of Landa's day signs to another. In the same way, the toothache glyph could be demonstrated to signify accession to the throne only by showing that it was consistently associated with certain dates in several monument series. It was not necessary to read the glyphs in Maya for either of the studies.

Current Research

Phonetic readings based on Landa's alphabet were attempted continuously throughout this period. They were generally unsuccessful and unaccepted until 1952 when a young Russian Yuri Knorozov, announced that he could match several glyphs in the Maya codices with the Maya words for items in their accompanying pictures, by treating them as simple consonant/vowel syllables with the vowel of the final syllable dropped. For example, he read two signs above pictures of dogs as *tzu* and *lu*, or as *tzul*, meaning dog in Yucatec Maya. Some confirmation of this and similar readings was found in other glyphic combinations in the codices, but real proof was lacking. The consonant/vowel hypothesis was strongly attacked by other Mayanists such as Thompson, who had become convinced that Maya glyphs were only ideographic. Proskouriakoff's historical hypothesis broke the back of the resistance, however, by providing non-calendric translations such as the name-glyphs of the rulers. For example, the name of Pacal, the 7th

century ruler of Palenque, was written both ways, ideographically as a shield, which is *pacal* in Maya, and syllabically as three signs *pa*, *ca*, and *la* for Pacal, with the vowel of the final syllable dropped (Fig. 13). One of the Tikal kings, Ruler A, has in his name-glyph Landa's *ah* as the first sign, Landa's *ca* sign doubled as the main sign, and a suffix which reads as *wa* in some month signs. Altogether, the name reads as Ah Cacau, a name which translates as Lord Chocolate. Some of the calendric month signs also read phonetically if their Chol Maya names are used instead of

Landa's Yucatec ones (Fig. 14). Thus through mathematical and contextual decipherment we come full circle to Landa. This brief summary helps to explain why it took so long to decipher the Maya script. Not only did we have a brief and inaccurate sort of "Rosetta Stone," but the writing system itself is heavily weighted toward the ideographic, with many hundreds of independent signs. Progress in syllabic decipherment will now probably be relatively rapid, but painful because of the many ideographic signs which dominate the Maya hieroglyphic inscriptions. **21**

Suggested Reading

Förstemann, Ernst W. 1886 *Erläuterungen zur Mayahandschrift der Königlichen öffentlichen Bibliothek zu Dresden* (Explanations of the Maya Manuscript of the Royal Public Library in Dresden). Dresden: Warnatz & Lehmann.

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