MAYA HIEROGLYPHIC WRITING

Workbook for a Short Course on Maya Hieroglyphic Writing

Second Edition, 2011

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INTRODUCTION AND ACKNOWLEDGEMENTS

After a couple of years working with Linda Schele in the first workshops on Maya hieroglyphic writing at the University of Texas at Austin in the 1970s, Kathryn Josserand and I took on the job of carrying the workshops to the masses and went on the road, leading weekend workshops at museums, universities, and private study groups from Los Angeles to New York City and St. Paul to Miami. The goal of these introductory workshops was to introduce beginners to the essentials of Maya writing and encourage them to go on to the Texas workshops and "get their noses pierced," the metaphor we took from the Mixtec Codex Nuttall for initiation into the community of glyphers. From 1987 to 2006, the year of Kathryn's untimely death in Palenque, we taught more than seventy workshops at some thirty different venues as far south as Chiapas and Guatemala. Early on we developed our own style of teaching hieroglyphic writing and a workbook for use in our workshops. This workbook went without major changes for twenty years; a page or so would be added periodically as new ideas were developed.

This workbook constitutes a second edition of our basic introduction to Maya writing. It preserves most of the material from the first workbook, but adds more material, generally drawn from our 1991 grant report to National Endowment of Humanities (*Handbook of Classic Maya Inscriptions, Part I: The Western Lowlands*. Final Performance Report, NEH Grant RT-21090-89). The additions go beyond the basics and introduce the user to our work on Maya inscriptions as literature, a topic we frequently lectured about in conjunction with our workshops. Our analysis of the texts as literature comes from two sources: an internal analysis of the texts themselves, and an intimate acquaintance with modern Maya storytellers, particularly in the Chol area. We started field work on Chol in 1978, and within a few years had begun to appreciate similarities in Classic and modern narratives that reflected a very conservative tradition of literature, oral and written. Bringing together those two eras of Maya literature has been our major contribution to contemporary Maya studies.

Part I: The Classic Maya and Maya Hieroglyphic Writing introduces the Maya and the principles of Classic Maya writing and goes on to point out the similarities between the Classic narrative texts and modern Maya narratives and formal speech. **Part II: An Introduction to Classic Maya Inscriptions** contains most of what the original edition of the workbook included, beginning with numbers, going on to a detailed discussion of the calendar, and ending with some comments on discourse features. **Part III: Hieroglyphic Grammar and Lexicon** presents our version of Classic Maya grammar and then lists common examples of hieroglyphic verbs, nouns, and adjectives. **Part IV: How to Approach a Hieroglyphic Inscription** is a step-by-step guide to our methodology of moving from the easy to the difficult in first looking at an inscription, with a sample text to illustrate the technique (get your colored pencils ready!).

In assembling our workbooks, we have relied greatly on the work of other colleagues. Thank God for the people who produce the drawings of hieroglyphic monuments! Our work begins when a good drawing is produced. In fact, our work usually has begun after not only the drawing is produced, but a basic level of analysis has been prepared by an epigrapher, resolving problems and sketching out the contents of an inscription. For this preliminary treatment, we owe debts of gratitude to many people, and the credits for their work used here are found separately, below.

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BIBLIOGRAPHY

Bassie-Sweet, Karen
1990 From the Mouth of the Dark Cave; Commemorative Art of the Late Classic Maya. Norman: University of Oklahoma Press.

Berlo, Janet Catherine, editor
1983 Text and Image in Pre-Columbian Art: Essays on the Interrelationship of the Verbal and Visual Arts. BAR (British Archaeological Reports), International Series, 180. Oxford.

Bricker, Victoria R.
1986 A Grammar of Mayan Hieroglyphs. Tulane University, Middle American Reseach Institute, Publication, 56. New Orleans.

Brody, Jill
1986 Repetition as a Rhetorical and Conversational Device in Tojolabal (Mayan). International Journal of American Linguistics 52:255-274.

Campbell, Lyle Richard, and Terrence S. Kaufman
1976 A Linguistic Look at the Olmecs. American Antiquity 41(1):80-889.

Cancian, Frank
1965 Economics and Prestige in a Maya Community; The Religious Cargo System in Zinacantan. Stanford: Stanford University Press.

Clancy, Flora S.
1986 Text and Image in the Tablets of the Cross Group at Palenque. RES, vol. 11. Cambridge: Peabody Museum of Archaeology and Ethnology, Harvard University.

Coe, Michael D.
2005 The Maya. Seventh edition. New York: Thames and Hudson.

Coe, Michael, and Elizabeth P. Benson
1966 Three Maya Relief Panels at Dumbarton Oaks. Studies in Pre-Columbian Art and Archaeology, 2. Washington, D. C.: Dumbarton Oaks.

Coe, William R.
1959 Piedras Negras Archaeology: Artifiacts, Caches, and Burials. Museum Monographs, The University Museum, University of Pennsylvania, Philadelphia.

Coggins, Clemency Chase
1988 On the Historical Significance of Decorated Ceramics at Copan and Quirigua and Related Classic Maya Sites. In Elizabeth H. Boone and Gordon R. Willey, editors, The Southeast Classic Maya Zone; A Symposium at Dumbarton Oaks, pp. 95-123. Washington. D. C.: Dumbarton Oaks Research Library and Collection.

Fox, James A., and John S. Justeson
1984 Conventions for the Transliteration of Maya Hieroglyphs. In John S, Justeson and Lyle Campbell, editors, Phoneticism in Mayan Hieroglyphic Writing. Institute for Mesamerican Studies, State University of New York at Albany, Publication 9, pp. 17-76.

Gossen, Gary
1974 Chamulas in the World of the Sun; Time and Space in a Maya Oral Tradition. Cambridge: Harvard University Press.

Graham, Ian
1979 Corpus of Maya Hieroglyphic Inscriptions, vol. 3, Part 2: Yaxchilan. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, Massachusetts.

Graham, Ian, and Eric von Euw
1977 Corpus of Maya Hieroglyphic Inscriptions, vol. 3, Part 1: Yaxchilan. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, Massachusetts.

Guilbert, Charles Mortimer, editor
1978 The Psalter; A New Version for Public Worship and Private Devotion. New York: The Seabury Press.

Hofling, Charles A.
1987 Maya Hieroglyphic Syntax. Paper presented to the symposium "The Linguistic Structure of Maya Hieroglyphic Writing," Annual Meeting of the American Anthropological

Association, Chicago.
1989 The Morphosyntactic Basis of Discourse Structure in Glyphic Text in the Dresden Codex. In William F. Hanks and Don S. Rice, editors, Word and Image in Maya Culture; Explorations in Language, Writing, and Representation, pp. 51-71. Salt Lake City: University of Utah Press.

Hopkins, Nicholas A.
1991 Classic and Modern Relationship Terms and the 'Child of Mother' Glyph (TI:606.23). In Merle Greene Robertson and Virginia M. Fields, editors, Sixth Palenque Round Table, 1986, pp. 255-265. Norman: University of Oklahoma Press.
1995 Estela C de Quiriguá. Paper presented to the Latin American Indigenous Literatures Association (LAILA), Mexico City, June, 1995.

Hopkins, Nicholas A., and J. Kathryn Josserand
1986 T'an ti Wajali. A volume of Chol folktales, translated to Spanish, with accompanying essays. Reprinted,1994, in Chol Texts, Vocabulary and Grammar. Final Technical Report to the National Science Foundation, Grant BNS-8308506, 1983-1986.

Houston, Stephen D., David Stuart, and Karl A. Taube
1989 Folk Classification of Classic Maya Pottery. American Anthropologist 91(3):720-726.

Jones, Christopher
1984 Deciphering Maya Hieroglyphs. Second edition, prepared for the Maya Weekend Workshop, April 7 and 8, 1984. The University Museum, University of Pennsylvania, Philadelphia.

Jones, Christopher, and Linton Satterthwaite
1982 The Monuments and Inscriptions of Tikal: The Carved Monuments. Tikal Report No. 33, Part A. University Museum Monograph 44, the University Museum, University of Pennsylvania, Philadelphia.

Josserand, J. Kathryn
1986 The Narrative Structure of Hieroglyphic Texts at Palenque. Paper presented to the Sixth Palenque Round Table, Palenque, Chiapas.
1987 The Discourse Structure of Maya Hieroglyphic Texts. Paper presented to the symposium "The Linguistic Structure of Maya Hieroglyphic Writing," Annual Meeting of the American Anthropological Association, Chicago.
1989 Participant Tracking in Hieroglyphic Texts: Who Was That Masked Man? Paper presented to the conference "The Language of Maya Hieroglyphs," University of California at Santa Barbara. Published in 1995, Journal of Linguistic Anthropology 5(1):65-89. Reprinted in 1997, in Anabel Ford and Martha Macri, editors, The Language of Maya Hieroglyphs, pp. 111–127. San Francisco: Pre-Columbian Art Research Institute.
1991 The Narrative Structure of Hieroglyphic Texts at Palenque. In Merle Greene Robertson, editor, Sixth Palenque RoundTable, 1986. Norman: University of Oklahoma Press.

Justeson, John S.
1989 The Representational Conventions of Maya Hieroglyphic Writing. In William F. Hanks and Don S. Rice, editors, Word and Image in Maya Culture; Explorations in Language, Writing, and Representation, pp. 25-38. Salt Lake City: University of Utah Press.

Kelley, David Humiston
1976 Deciphering the Maya Script. Austin: University of Texas Press.

Knorosov, Yuri V.
1952 The Ancient Script of Central America. Sovietskaya Etnografiya 3:100-118.
1956 La Escritura de los Antiguos Mayas. Traducción del ruso de Adolfo S. Vázquez. Colección Ideas, Instituto de Intercambio Cultural Mexicano Ruso, México, D. F.
1965 Principios para Descifrar los Escritos Mayas. Estudios de Cultura Maya 5:153-188.

Longacre, Robert E.
1985 Discourse Peak as Zone of Turbulence. In Jessica R. Wirth, editor, Beyond the Sentence: Discourse and Sentential Form, pp. 81-98. Ann Arbor: Karoma.

Martin, Simon, and Nikolai Grube
2000 Chronicle of the Maya Kings and Queens. London: Thames and Hudson.

Maudslay, A. P.
1889-1902 Biologia Centrali Americana: or, Contributions to the Knowledge of the Fauna and Flora of Mexico and Central America; Archaeology, 5 vols. London: R. H. Porter and Dulau. [Facsimile edition, edited by Francis Robicsek, Milpatron Publishing, New York, 1974, distributed by University of Oklahoma Press].
Méluzin, Sylvia
1987 The Tuxtla Statuette: An Internal Analysis of its Writing System. In Gary W. Pahl, editor, The Periphery of the Southeastern Classic Maya Realm, pp. 68-106. UCLA Latin American Center Publications, University of California at Los Angeles.
Montgomery, John
2002 How to Read Maya Hieroglyphs. New York: Hippocrene Books.
Morley, Sylvanus G.
1946 The Ancient Maya. Stanford: Stanford University Press.
Norman, William M.
1980 Grammatical Parallelism in Quiche Ritual Language. Berkeley Linguistics Society 6:387-399.
Proskouriakoff, Tatiana
1960 Historical Implications of a Pattern of Dates at Piedras Negras. American Antiquity 25:454-475.
1963 Historical Data in the Inscriptions of Yaxchilan; Part I. Estudios de Cultura Maya 3:149-167.
1964 Historical Data in the Inscriptions of Yaxchilan; Part II. Estudios de Cultura Maya 4:177-201.
Reents-Budet, Dorie
1989 Narrative in Maya Art. In William F. Hanks and Don S. Rice, editors, Word and Image in Maya Culture; Explorations in Language, Writing, and Representation, pp. 189-197. Salt Lake City: University of Utah Press.
Schele, Linda
1982 Maya Glyphs: The Verbs. Austin: University of Texas Press.
1981 Notebook for the Maya Hieroglyphic Workshop at Texas. Austin: University of Texas.
Schele, Linda, and Mary Ellen Miller
1986 The Blood of Kings; Dynasty and Ritual in Maya Art. Fort Worth: Kimbell Art Museum.
Sharer, Robert J., Edward M. Shortman, and Patricia A. Urban
1983 Quirigua Reports, vol. II (Papers 6-15). University Museum Monograph, The University Museum, University of Pennsylvania, Philadelphia.
Stuart, David
1987 Ten Phonetic Syllables. Research Reports on Ancient Maya Writing, 14. Washington, D. C.: Center for Maya Research.
1989 The Maya Artist: An Epigraphic and Iconographic Study. Thesis (Bachelor of Arts in Art and Archaeology), Princeton University.
Stuart, George E.
1988 A Guide to the Style and Content of the Series Research Reports on Ancient Maya Writing. Research Reports on Ancient Maya Writing 15:7-12.
Sullivan, Thelma D.
1976 Compendio de la Gramática Náhuatl. Instituto de Investigaciones Históricas, Serie de Cultura Náhuatl, Monografías, 18. México, D. F.: Universidad Nacional Autónoma de México.
Thompson, J. Eric S.
1960 Maya Hieroglyphic Writing; An Introduction. Norman: University of Oklahoma Press.
1962 A Catalog of Maya Hieroglyphs. Norman: University of Oklahoma Press.
Tozzer, Alfred M.
1941 Landa's Relación de las Cosas de Yucatán; A Translation. Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, 18. Cambridge: Peabody Museum.

Valentini, P. J. J.
1880 The Landa Alphabet: A Spanish Fabrication. Proceedings of the American Antiquarian Society 75:59-91.
Vogt, Evon Z.
1969 Zinacantan: A Maya Community in the Highlands of Chiapas. Cambridge: Harvard University Press.
Winfield Capitaine, Fernando
1988 La Estela 1 de La Mojarra, Veracruz, México. Research Reports on Ancient Maya Writing, 16. Washington, D. C.: Center for Maya Research.
Winters, Diane
1991 A Study of the Fish-in-Hand Glyph, T 714: Part 1. In Merle Greene Robertson and Virginia M. Fields, editors, Sixth Palenque Round Table, pp. 233-245. Norman: Univeristy of Oklahoma Press.

Figure I-1. Mesoamerican Languages

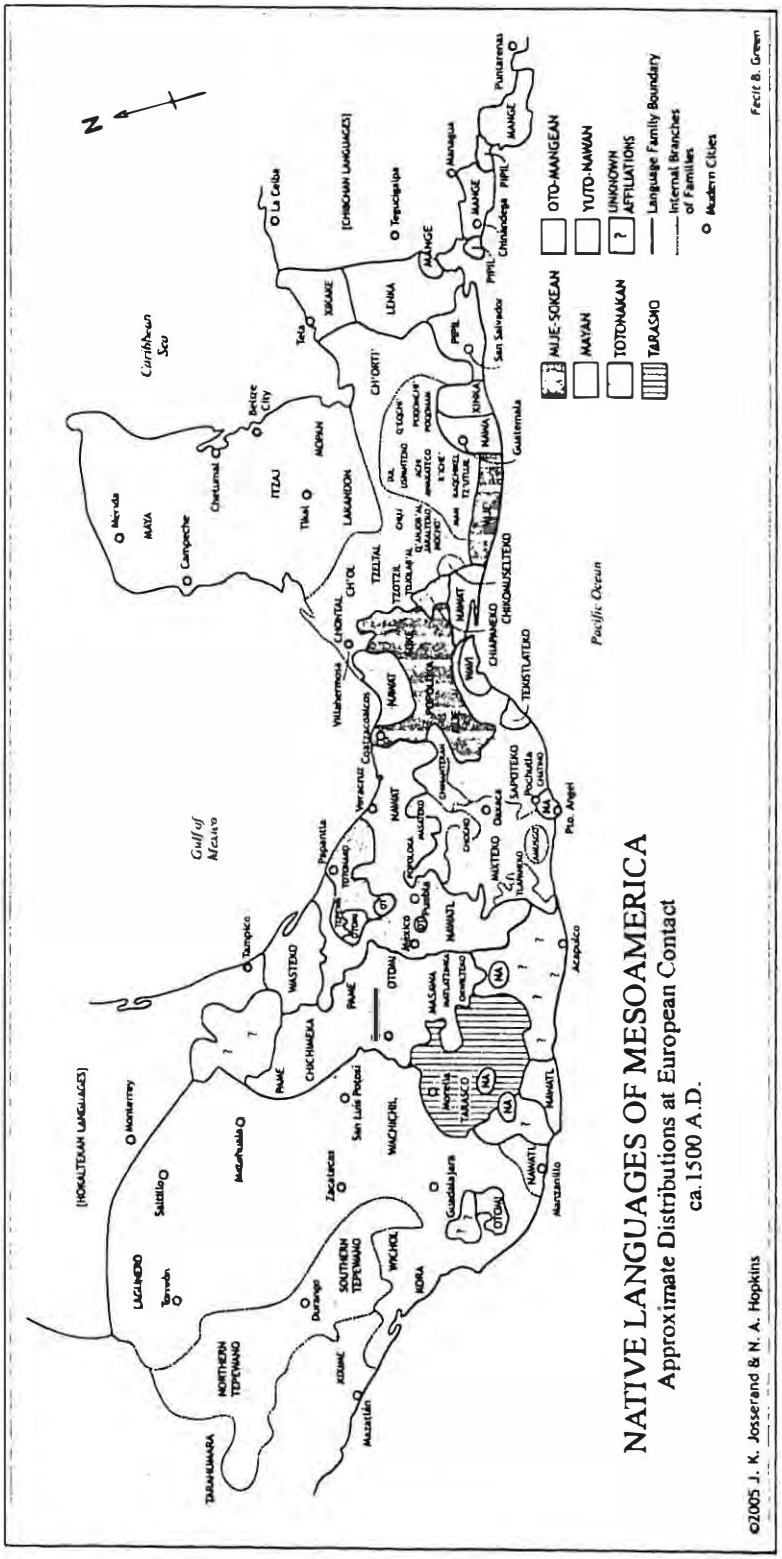


Figure I-2. The Maya Area

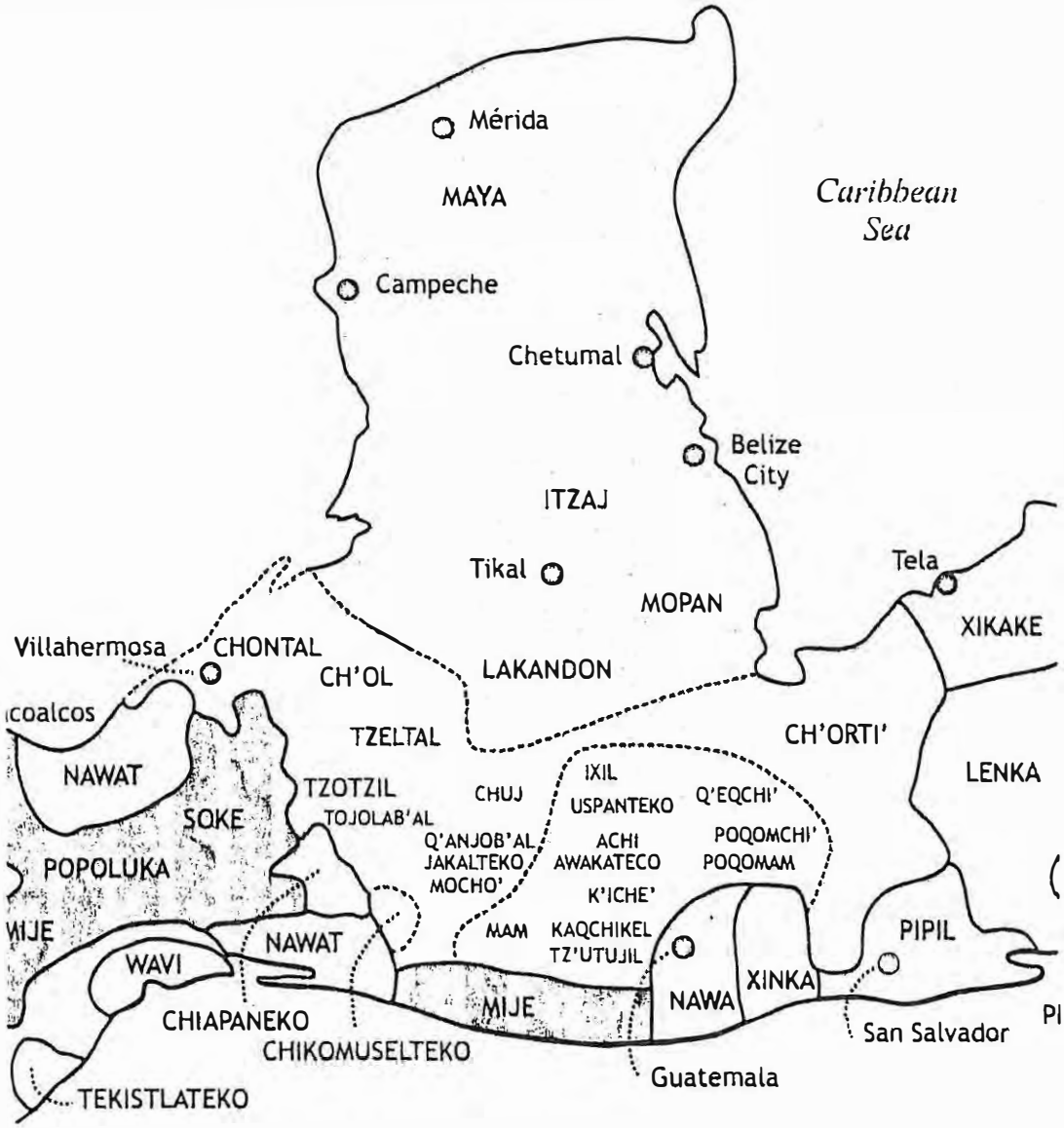


Figure I-3. Chronological Table (Coe 2005:10)

DATES Calibrated	PERIODS	SOUTHERN AREA		CENTRAL AREA	NORTHERN AREA	SIGNIFICANT DEVELOPMENTS
		Pacific Coast	Highlands			
1530	Late Post-Classic	Aztec Xoconocho	Mixco Viejo	↑ Tayasal	Independent states Mayapan	*Spanish Conquest* *Highland city-states* *League of Mayapan*
1200	Early Post-Classic	Tohil Plumbate	Ayampuk		Toltec Chichen	*Toltec hegemony in Yucatan*
925	Terminal Classic	Cotzumalhuapa	Quen Santo	Bayal/ Tepeu 3	Puuk, Maya Chichen	*Toltec arrive in Yucatan* *Classic Maya collapse, Putun ascendancy*
800	Late Classic		Amatle- Pamplona	Tepeu 2 1	Early Coba	*Bonampak murals* *Height of Maya civilization*
600	Early Classic	Tiquisate	Esperanza	3 Tzak'ol 2 1	Regional styles, Acanceh	*Reign of Janahb Pakal at Palenque* *Teotihuacan interference and influence*
250	Late Preclassic	↑ Izapan styles Crucero	Aurora Santa Clara Miraflores	Matzanel Holmul I Chikanel	Late Preclassic	*First lowland Maya dated stela at Tikal* *Massive pyramid-building in lowlands* *Spread of Izapan civilization, calendar, writing*
AD / BC 300	Middle Preclassic	Conchas Jocotal	Las Charcas Arévalo	Mamom Xe, Swasey	Middle Preclassic	*Earliest lowland Maya villages*
1000	Early Preclassic	Cuadros Cherla Ocós Locona Barra				*Early Olmec influence on Pacific Coast* *Beginnings of social stratification* *Origins of village life, pottery, figurines*
1800	Archaic	Chantuto		Belize Archaic		*Hunting, fishing, gathering*
3000						

Chronological Table

PART I:
THE CLASSIC MAYA AND MAYA HIEROGLYPHIC WRITING

The Maya are Native Americans who have occupied parts of what is now southern Mexico and Central America for thousands of years (Fig. I-1). During the Classic period, roughly the first millennium of the Christian era, one of the world's most advanced civilizations flourished in this area, and it was the Maya who were the bearers of this great tradition. The Classic Maya had advanced mathematics, extensive knowledge of astronomy, the world's most accurate calendar, and a writing system which they used to record the major events of their history.

After about A D 1000, Maya civilization went into a decline, and the high culture maintained by the royal courts disappeared over much of the area. By the time Europeans arrived in the sixteenth century AD, Maya high culture survived only in northern Yucatan, where the first missionaries were able to record basic information on the calendar, the writing system, and other aspects of Maya culture and society. But the Europeans then crushed resistance to foreign rule, burned the books of knowledge, and destroyed what remained of native high culture. The Maya rulers were replaced or merged with the Colonial Spanish governors, and the rest of the Maya were reduced to the status of subjugated peasantry.

Today, there are several million speakers of Mayan languages living in the Maya area: perhaps a million speakers of Yucatec Maya in Yucatan, Campeche, and Quintana Roo (Mexico); another million speaking various languages in the foothills around the base of the Yucatan peninsula, in Chiapas (Mexico) and northern Guatemala, and over a million speakers of other Mayan languages in highland Guatemala. For the most part, until recent times, these Maya were subsistence farmers practicing a simple life style far removed from the glory of their ancestors' courts. But many aspects of Classic culture have survived the centuries, and the Maya in various regions still use the ancient calendar, calculate by the same mathematics, and tell stories with mythological and historical content using the rhetorical devices of Classic literature.

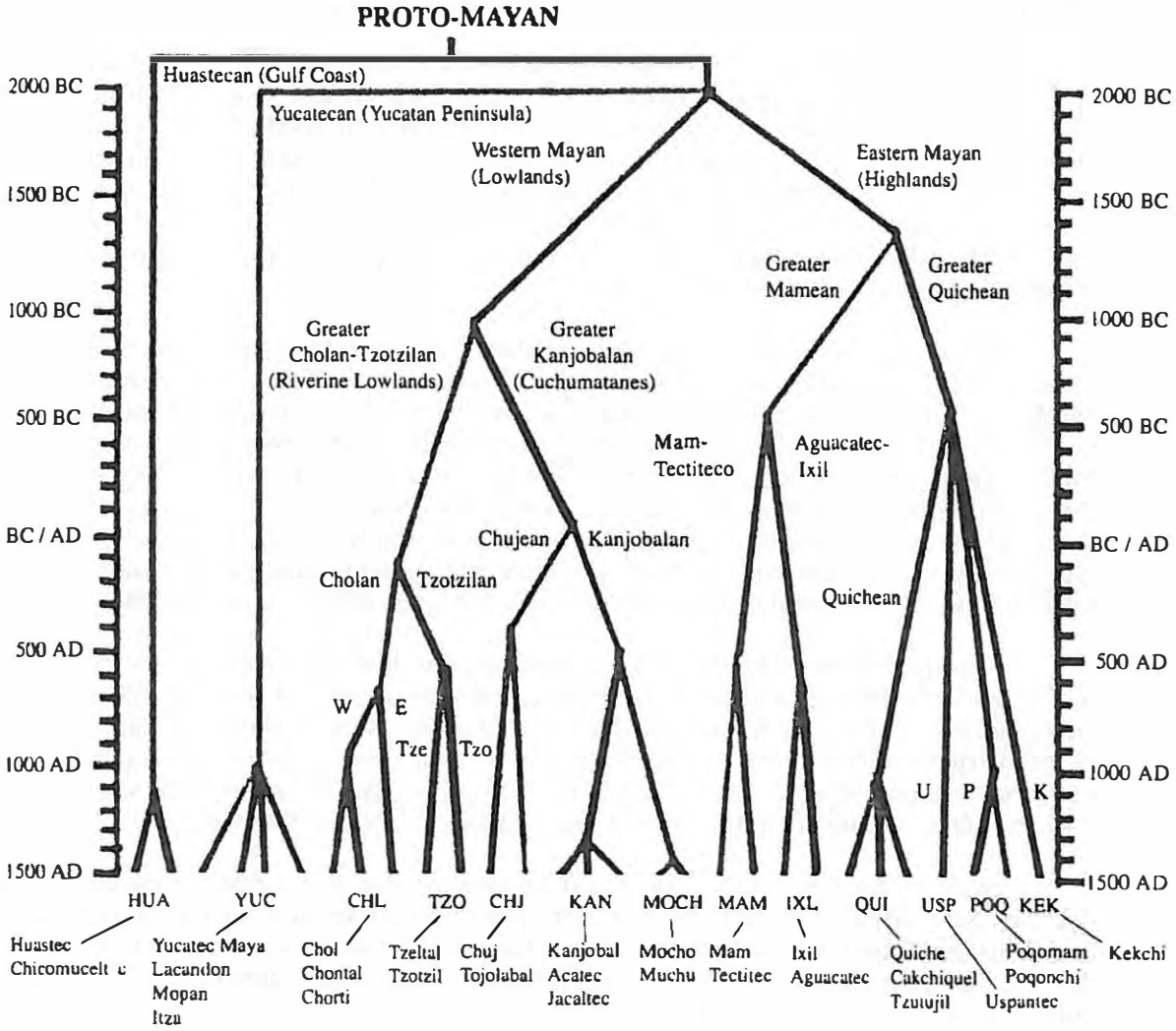
A combination of archaeology, epigraphy (studying the monuments left by the Classic Maya), and ethnohistory (information in the documents preserved from the sixteenth century and later Colonial period), and the knowledge and lore of the modern Maya has made it possible for us to reconstruct much of Classic culture. One of the most exciting recent developments has been the near total decipherment of the Classic Maya writing system, so that we can now read the Maya's own records of the affairs of their rulers over a span of close to a thousand years.

Building on 150 years of slow, careful scholarship and suddenly booming, much of this decipherment has taken place in the last thirty years. Things are now moving so fast that knowledge is well ahead of the textbooks; there are few places to read about what is currently known. Much of the communication between scholars, and most of the communication of scholars with the general public, has taken place in workshops.

The term "Maya area" usually refers to all the area where Mayan languages are spoken now or are known to have been spoken in the past. This covers the eastern parts of the Mexican states of Chiapas and Tabasco, all of the states of Campeche, Yucatan, and Quintana Roo; Belize; all of Guatemala except the Pacific coastal plain; and the westernmost parts of El Salvador and Honduras (Fig. I-2).

Within this area there are several geographical regions. The most basic division is between Lowlands (to the north) and Highlands (to the south). This Lowland division corresponds roughly

Figure I-4. A Family Tree of Mayan Languages



to the area of high culture, where hieroglyphic inscriptions are found, except that the adjacent highland foothills are also included in this Maya Classic area – parts of the Highlands of Chiapas, the Guatemalan Cuchumatanes, the Maya Mountains of Belize, and the western highlands of Honduras are included in the Classic Maya area along with the adjacent Lowlands of the Yucatan Peninsula.

Mayan Languages

There are over fifty distinct languages in the Mayan family of languages, all ultimately descended from a single language (proto-Mayan) spoken some 4000 years ago, in the Archaic period of New World prehistory. As speakers of this language spread out over the area their descendants now occupy, they lost contact with one another and different regional languages emerged, similar to one another because of their common heritage, but no longer mutually intelligible. Linguists group these languages into four major groups: Huastecan, Yucatecan, Western and Eastern Mayan (Fig. I-4). Of these groups, Yucatecan and Cholan (part of Western Mayan) were the main languages of the Classic region. Speakers of other languages were surely involved in peripheral areas, and there is considerable evidence of bilingualism and interaction between languages.

Cholan predominated in the southern Lowlands, where the Preclassic and Early Classic cultures flourished. Yucatecan was the language of the northern Lowlands, more important in the Late Classic and Postclassic--and the area where Europeans first recorded Maya culture. Epigraphers use both Cholan and Yucatecan languages in their research, but recognize that some variety of Cholan is normally the language of the southern monuments, although the influence of Yucatecan is seen in the language of the late northern sites and the Postclassic Codices (the four books which survived the 16th century bookburning: the Dresden Codex, Paris Codex, Madrid Codex, and the Grolier Codex, named after the collections which house them).

Chronology

The development of cultures in southern Mesoamerica defines a series of periods whose names reflect what is going on in the Mayan area and adjacent areas at the time (Fig. I-3). The early time period, before the development of the Olmec civilization, is referred to as the Archaic (up to about 2000 BC). The period of Olmec cultural predominance, 2000 BC to about AD 150, is called the Preclassic of Formative, since it foreshadows later developments. The period of transition, when the Maya began to display the traits of social stratification and divine rulership, begins in the Late Preclassic and runs through the Protoclassic (approximately AD 150-300).

The Classic period is arbitrarily taken to begin with the appearance of the first monuments known to be recorded in a peculiarly Mayan way, around AD 300 (e.g., Tikal Stela 29, AD 292). From this point through the Classic, monuments were dated with what is called the Initial Series, a standard set of data which fixes the recorded event in time, and gives us an absolute chronology of Maya history. The Initial Series is based on a system used by the Olmecs, but the data are recorded in a new way, and this pattern becomes standardized throughout the Mayan area. The Classic period ends with the last known monuments with dates recorded in that fashion, around AD 900-1000. Later dates use the same calendar, but do not give the full set of information and allow for a degree of speculation about just when the events took place.

The Classic period is traditionally divided into Early Classic (AD 300-600) and Late Classic (AD 600-900), basically the periods before and after the fall of Teotihuacan in Central Mexico, which had repercussions all the way into the Mayan area. Many scholars now divide the Classic

into much finer subdivisions, distinguishing Early, Middle, Late and Terminal Classic periods, as well as the sub-divisions of the Post Classic period necessary to account for the later cultural developments in the northern Yucatan area.

Another way of dating events in the Mayan area is to use the dates used by the Maya themselves. This approach sidesteps the problems involved in correlating the Mayan calendar with the European one, but has the disadvantage of being absolutely meaningless to anyone not cognizant of Maya dates. On the other hand, when you are working with a monument which records all the events in the Mayan calendar, it is bothersome to have to keep converting them to European equivalents, so sooner or later you give up and begin to work in Mayan time. A chronology chart is an easy guide to the conversion between the two chronological systems (see the chart in Fig. 29, below).

Maya and Earlier Writing

The writing system used by the Classic Maya grew out of earlier writing developed by their neighbors to the West, the Olmec, who spoke languages of the Mixe-Zoquean family (unrelated to Mayan). The earliest evidence of high culture in Mesoamerica is found in the Olmec or Mixe-Zoque area. At one time or another, from the second through the first millennium BC, the Olmec and related cultures covered a large expanse of territory. Although the Olmec heartland is thought of as the Gulf Coast lowlands of Veracruz and Tabasco, their presence can be detected as far north as the Valley of Mexico, in the Balsas River drainage of Guerrero, and in the Highlands of Oaxaca. To the south, Olmec and related cultures are found across the Isthmus of Tehuantepec to the Pacific Coast, up into the Chiapas highlands, and along the Chiapas and Guatemalan Pacific coast to El Salvador. Long before the Maya, the Olmec recorded dates with the calendar and time-counting system which the Maya would later use (seen on Chiapa de Corzo, Stela 2, dated 36 BC, and on Tres Zapotes, Stela C, dated 31 BC). A newly-discovered monument (La Mojarra, Stela 1; AD 156) shows that they also recorded royal affairs in a well-developed hieroglyphic script, but few long inscriptions have been found; most examples are fragmentary and/or very brief (Meluzin 1987; Winfield 1988). John Justeson suggests that Maya writing derives from the Greater Izapan script, a variant of the southeastern Mesoamerican writing tradition associated with Mixean languages. The southern Veracruz, Tabasco and Chiapa de Corzo variant was associated with the Zoquean languages, and both variants contrast with the Oaxacan logographic script tradition, the forerunner of central Mexican writing (Justeson 1989:28).

The linguistic evidence – especially borrowed words – indicates that Mayans had contact with speakers of Mixe-Zoquean during an early period in their history. The words the Maya borrowed from Mixe-Zoque indicate that the Olmecs were culturally and socially superior to the early Maya (Campbell and Kaufman 1976); Mayas also borrowed the trappings of royalty and much of the iconography associated with rulers from the Olmec. In the first century BC, after centuries of contact, Mayas began to emulate the social organization of the Mixe-Zoque. The new Maya kings dressed in ceremonial clothing adorned with the symbols of Olmec rulership and religion, carried out ceremonies similar to those depicted on earlier monuments, recorded their acts in a script derived from Mixe-Zoquean writing, dated them according to the system used earlier by the Olmecs, and even called royal children *unen*, a Mixe-Zoquean word for 'child' (Hopkins 1991).

But while they were not the inventors of these cultural institutions, the Maya promptly put their own stamp on them, and Maya Classic culture is not just a continuation of what had gone before. The transfer of writing from one language group to another seems to have resulted in fundamental changes, so that Maya writing probably developed beyond the point reached by Olmec antecedents, and in any case the literary production of the Olmec is dwarfed by the diverse quality

and sheer quantity of texts left by the Maya. Because of its origins in a foreign language, the elements of Maya writing are not always understandable from Mayan data; the names of many of the calendric signs and the phonetic values of many of the basic glyphs have no meaning in Mayan languages that is related to the objects depicted.

Context and Content

The Maya wrote in almost every conceivable medium. Most of what we have from the Classic is on the best preserved materials, stone and ceramics. But we also have inscriptions carved in bone and wood, modeled in stucco, painted on walls, scratched on rocks, and written on paper. In fact, much early writing and much routine, non-ceremonial, writing must have been on perishable materials, and we have only a small sample of the whole from which to make our educated guesses.

To appreciate the bias that the loss of writing on perishable material gives us, imagine that the archaeologists of the future have no writing from our culture except that recorded on stone, paper having been burned and plastic melted in the holocaust, and metal having rusted away. They would have little to go on but monumental architecture: cornerstones and carvings over doorways. They would be limited to reading about who was governor, mayor and on the city council when public buildings were inaugurated, and would be treated to any number of grand slogans and famous quotations, but would have no direct descriptions of what was going on. In a way, this is similar to what we have from the Maya. What is recorded on the Classic monuments are the affairs of royalty, including ceremonies which obviously had great meaning for the population at the time. A number of monuments are in fact just like our cornerstones, and were carved to record the dedication of a building by a ruler. Many monuments were erected on the occasion of the end of a time period (usually a 20-year cycle called a **k'atun**), and say simply that So-and-So was king when the katun ended, and did the ceremonies that kings were expected to do on those occasions. Other monuments memorialize the accession of a king to power, or celebrate the anniversary of his accession; still others record the capture of important personages in battle.

We are fortunate that the Maya, in recording these events, often took the opportunity to go beyond the simple statement of the deed, and gave us important information about the actors: their birth dates, the dates of their accession to power and other events in their lives; their parentage, their royal titles, and the deities and mythological beings they are emulating in their royal acts.

Since a prominent ruler may be the protagonist of any number of monuments during his or her life, and be mentioned in later monuments by descendants or successors, a considerable amount of data may be accumulated over a series of inscriptions, and our knowledge of many rulers is as ample as what we know about many of our own historical figures. Whether this information is accurate, or whether we are innocent victims of a misleading propaganda campaign, is of course no more certain with data from Maya monuments than it is with any other kind of historical source. However, we are told very little about anyone but rulers and their immediate families, their subordinates, and their captives. What is being recorded is not Maya history, it is the history of the Maya elite, and we have no direct information from the written record about the rest of society.

The Writing System

Classic Maya writing makes use of a range of types of signs, some more related to phonological units, the others more related to conceptual units. These may be called **phonetic** and **logographic** signs, respectively. The same word may be written in the same text in a variety of ways, making use of the possibilities offered by these two types of signs as well as by graphic variants and stylistic variations in the visual representation of the individual signs. The Classic

Figure I-5. Logographic Signs

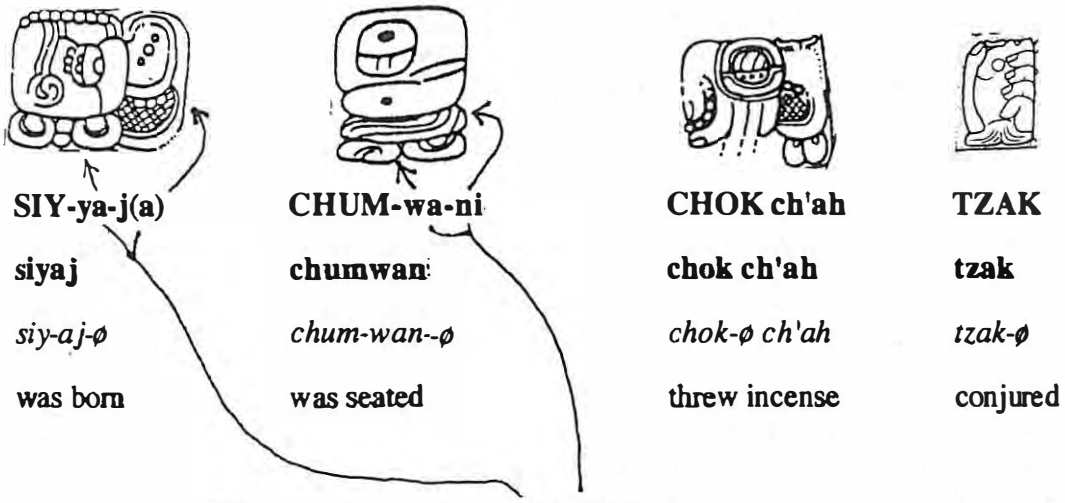


Figure I-6. Phonetic Signs

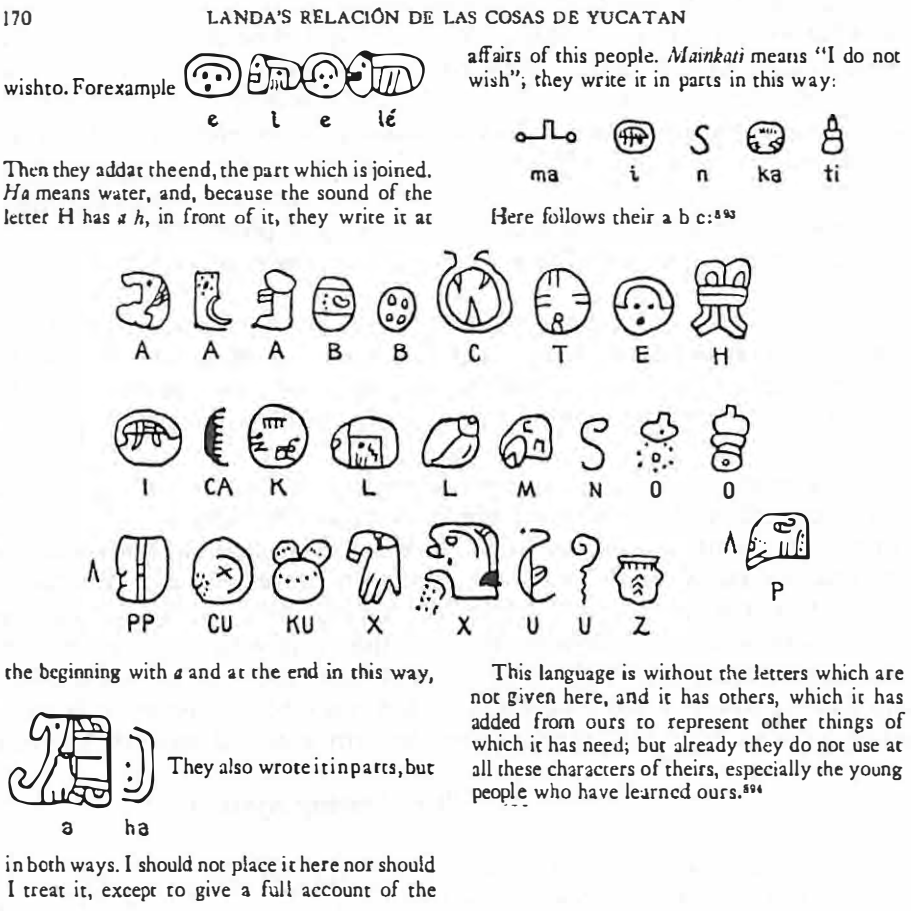


Figure I-7. Landa's "Alphabet"

Maya demonstrate an impressive ability to use word play, iconography, and other linguistic and visual dimensions to create truly magnificent monuments as rich in their literary style as Classic Maya art is in its iconographic displays.

A **logographic sign,** a "sign that represents a word" (G. Stuart 1988:7) is often simply a picture of a major element of the act or object represented. The meaning of many of these signs has been established by an examination of the scenes which accompany the text in which the glyph appears. Examples of this kind of sign (Fig. I-5) include a hand dribbling dots, representing the "scattering" event (the giving of an offering, usually by dropping incense into a fire). A profile of a seated torso represents the act of enthronement, i.e., the "seating" of a lord. Almost any figure bearing a certain kind of headband, the symbol of rulership, signifies 'lord'.

Other signs appear to be logographic but their origins are obscure: a hand holding a fish represents the vision experience which follows certain acts of bloodletting (Winters 1991); the upturned head of an unidentified reptilian or amphibian creature clearly represents birth. Still other apparently logographic signs, including many of the calendar signs, have no discernible visual referent. Their origins are perhaps lost in antiquity, being derived from earlier writing systems based on other languages (e.g., Olmec writing, which represented a Mixe-Zoquean language; cf. Campbell and Kaufman 1976).

Because it represents a particular word or meaning, a given logographic sign occurs in compounds which have related meanings. However, different logographic signs are used to represent various grammatical classes, including nouns, verbs, and attributives. The grammatical function of a sign is often clarified by accompanying morphological affixes, sets of phonetic signs which spell out derivational or inflectional morphemes. Whether or not they are so marked, the grammatical function of logographic signs can usually be inferred from the syntactic context. At the present time, we believe that most glyphic affixation is inflectional rather than derivational (cf. Schele 1982, Bricker 1986, Hofling 1987), which means that what is usually represented by the logographic sign is an inflectable stem: either a root which serves as a stem, or a stem formed from a root with derivational affixes.

Phonetic signs (Fig. I-6) most often represent syllables, usually of the shape CV (consonant plus vowel). Many of these signs were listed in a sixteenth century Maya "alphabet" recorded by Diego de Landa, bishop of Yucatan (Fig. I-7). For many years Landa's "alphabet," included in a manuscript which was discovered in Europe in the nineteenth century (Tozzer 1941), was considered by scholars to be at best useless and at worst a fabrication (Valentini 1880), as its relation to the signs in codices and monumental texts was unclear. It was not immediately obvious how the values given by Landa made sense out of any part of the inscriptions.

Now that the values of many phonetic signs have been independently established, we can reinterpret Landa's text and understand the phonetic values assigned to the glyphs he cites. It appears that Landa elicited the set of signs by asking for the Spanish letters by their names: **a, be, ce, de,** etc. He was given Maya syllable signs in response. Landa was thinking alphabetically and he expressed dismay at the "ponderousness" of the writing system and the seemingly irrational behavior of his informants. Landa gives as an example (Tozzer 1941:168) the spelling of the word *le* 'rope', remarking that he "having made them understand that there are two letters, they wrote it with three," adding at the end the whole word. The Maya text drawn into Landa's manuscript makes it clear that the informant wrote just what he was asked for: "**e-le-e,** le," the names of the letters which spell the word, and then the whole word. Landa must have said "*Escíbame 'lazo', ele-e, le*" ("Write 'rope', L, E, le"), and was given just that sequence of syllable signs in response. Many of Landa's signs have now been confirmed as phonetic signs (cf. D. Stuart 1987).

Figure I-8. A Maya Syllabary

Fig. 7-14 Syllabary, left half.

Fig. 7-15 Syllabary, right half.

In contrast to logographic signs, a given phonetic sign can occur in a variety of compounds which have no common element of meaning, but which share common phonological elements. While the syllabary that has been identified to date is not complete (not all consonant-vowel combinations are represented) no major **dimensions** of contrast are missing from the system (Stuart 1987:46-47). The distinction between syllables having glottalized and non-glottalized consonants, for instance, is clearly maintained in writing, although confusion in Colonial and modern language sources, ignorance of Mayan phonology, and unresolved questions of decipherment have led some scholars to argue that this is not the case (Jones 1984, Coggins 1988). All vowels and all but the rarest consonants (*t'*, *p'*) have been identified in at least some syllabic representations (Fig. I-8). The inventory of known signs grows constantly as scholarship advances.

Mayan words typically end in consonants rather than vowels, and by convention a final syllabic sign often represents C alone rather than CV, as first noted by the Russian scholar Yuri Knorosov (1952, 1956). There is a statistically notable preference for such final syllable signs to have the same vowel as the stem, or to have a phonetically similar vowel. This reflects the common Mayan allophonic pattern in which final consonant phonemes are followed by subphonemic aspiration in the form of an "echo syllable" composed of the (devoiced) consonant and a voiceless repeat of the preceding vowel. Thus, the name of the Palenque ruler Pakal, sometimes represented by the logographic sign for 'shield', may be spelled with three syllable signs, **pa-ka-la** 'Shield'. In accordance with the conventions for writing words ending in a consonant, the last vowel, a synharmonic repeat of the preceding vowel, is to be ignored.

In the transcription of Maya words written hieroglyphically, G. Stuart (1988) has set the current standards by simplifying the scheme proposed by Fox and Justeson (1984a). Logographic signs are transcribed in capital letters: **PAKAL**, 'Pakal (name), shield'. Phonetic signs are transcribed in lower case: **pa-ka-la**. Final synharmonic vowels to be ignored, or phonetic complements, are written between parentheses: **pa-ka-l(a)**, 'Pakal'; **K'IN-(ni)**, 'sun, day'.

Combinations of glyphs usually appear in "glyph blocks" (G. Stuart 1988:8) which are roughly square. These blocks often feature a larger, central, **main sign**, with one or more smaller **affixes** attached to the main sign. Glyph blocks have also been called "glygers" (from "glyph group," Kelley 1976) or "collocations" (Bricker 1986). In earlier research, the affixes were also called "prefixes," "superfixes," "subfixes," or "suffixes," according to their position to the left, above, below, or to the right of the main sign (Fig. I-9). It is now generally accepted that affixes may freely alternate between the prefix and superfix positions, on the one hand, and between the subfix and suffix positions on the other. Consequently the term **prefix** is applied to any affix which is to the left or above the main sign, while **suffix** is applied to any affix which is below or to the right of the main sign. Within a glyph block, the reading order of elements is basically left to right, top to bottom, with prefixes being read before the main sign, suffixes after it. A rule of thumb would be to read the upper left-hand corner first. There are many exceptions to this general rule, including many glyph blocks which have no clear main sign, but an educated reader has little trouble following the order of affixes.

There is a close but not inevitable correspondence between the graphic unit (a glyph block) and the syntactic unit (a word, i.e., a stem and its affixes). On the other hand, there is considerable artistic play with the representations of a given word or phrase, even within the same text. A single text may contain instances of a phrase written with various glyphs distributed across two or more glyph blocks, along with instances of the same phrase compressed into a single glyph block, or appearing as part of a glyph block. These possibilities are often manipulated for effect: a name or

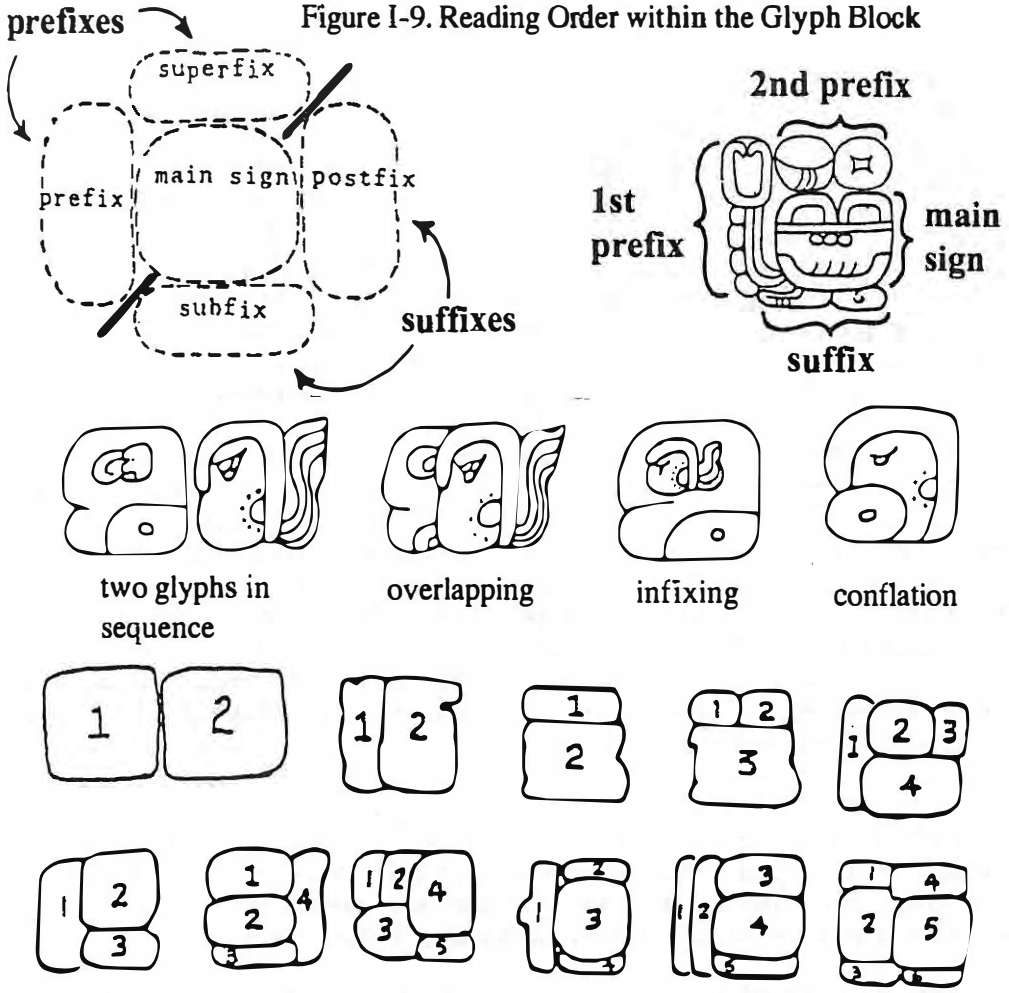


Figure I-9. Reading Order within the Glyph Block

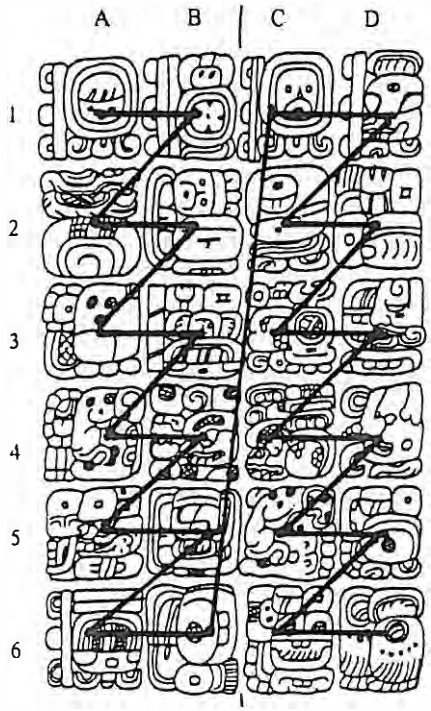


Figure I-10. Reading Order of Glyph Blocks

event may occupy more space when first mentioned, then be compressed into smaller spaces in later mentions. As with the reading order of affixes within glyph blocks, an educated reader can disambiguate all but the most creative selections and arrangements of glyphic elements.

Hieroglyphic Texts

Glyph blocks are arrayed to form texts. Short texts may consist of one or more glyph blocks, arranged in a single horizontal or vertical line, read from left to right or top to bottom. They may also be arranged in a line which bends from horizontal to vertical around an image, or otherwise accommodates the text to the art or architecture it accompanies. In long texts the most common arrangement of glyph blocks is in the form of a grid-like rectangle, within which the blocks are read in double columns, beginning at the top left corner of the text. Reading proceeds from the top left glyph block to the block at its right, then down to the next line to read left to right again (Fig. I-10). By convention of modern scholars, vertical columns of glyphs are given letters, left to right, and horizontal rows are numbered with arabic numerals from top to bottom. Thus in a normal long inscription the first glyph read is A1, the next B1, then A2, B2; A3, B3; A4, B4, etc.

Word Order

It has long been known that Maya hieroglyphic texts consisted of sets of sentences and that these sentences displayed the general characteristics of Mayan syntax (Proskouriakoff 1960, Knorozov 1965:159-176). The order of elements in a meaningful segment of hieroglyphic text is directly comparable to the order of words in a sentence, and changes in word order are among the most common indicators of informational importance. Normal, expected word order ("unmarked" order) does not stress any one part of the sentence over any other part. Unexpected, or "marked" word order focuses attention on a particular element within the sentence, and thus indicates its increased importance in the development of the narrative.

New information is often presented in marked constructions; old information is downplayed and may even be omitted from a sentence in order to highlight what remains. Important new information may be repeated several times, or elaborated on by adding extra bits of new information in each restatement.

In the hieroglyphic inscriptions, normal (expected, unmarked) word order is the same as most Mayan languages, and is characterized as "verb initial." This refers to the order of words in a simple Transitive sentence with only three elements – actor (subject), action (verb), and recipient of the action (object), that is, Subject, Verb, and Object, or, more technically, Agent, Verb, and Patient. In English, the normal order of these elements is SVO, Subject Verb Object ("the boy hit the ball"). For Mayan languages and for the hieroglyphic texts, the order of these elements is Verb Object Subject, or VOS. Any other order is considered to be "marked."

The rules of Maya grammar require that the Subject be marked by a pronoun attached to the verb; for Transitive verbs, this pronoun is prefixed, so it might appear that the Subject is now first, but this is not a change in order, since an independent Subject can still occur (optionally), in the normal, sentence-final position. The third-person verbal pronoun is one of the most common elements in any Maya language, as it serves two very important functions: besides being a verbal subject for Transitive verbs, it is also the Possessive Pronoun which precedes possessed nouns. Not surprisingly, the third-person verbal pronoun *u* (modern Chol *i)* 'he/she' was one of the earliest grammatical elements to be deciphered in Maya hieroglyphs (Glyph number 1, or T1, in Eric Thompson's 1962 catalog of Maya glyphs).

Figure I-11. Examples of Classic Syntax

VTR: **u-CH'AM yax-tun RULER1 Ch'uh YOCHIB Ajaw**
He-set [his] first stela Ruler 1, Holy Lord of Piedras Negras.

VIN: **i ụti 7 MANIK CHUM PAX**
And then, it came to be 7 Manik Seating of Pax.

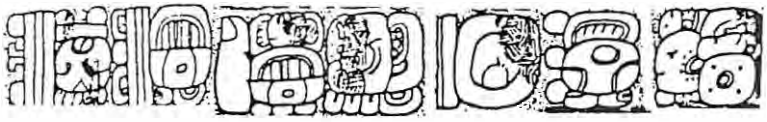
VPO: **CHUM-laj ta Ahawle K'inich Ajkal Mo' Nab'.**
Seated as Lineage Lord [was] K'inich Ajkal Mo' Nab'.

Figure I-12. Unmarked and Marked Word Order

i CH'AM-hun tu b'ah MAT [ta] 9 IK 0 SAK
Normal Word Order: The Temporal Phrase falls at the end of the sentence.

8 IX 7 YAX CH'AM-jun tu b'ah CHAK ZOTZ' b'a ajaw.
Marked Word Order: The Temporal Phrase is fronted to the begining.

Figure I-13. Backgrounding and Foregrounding



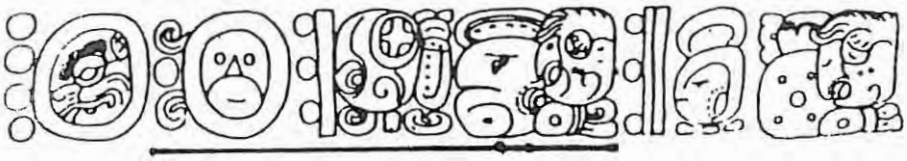
[tz'akaj] 17 k'in, 7 winal, 16 tun, 1 k'atun, SIY-aj-hi-y(a) [ta] 5 AHAU 3 ZEC,
[It had been] 17 days, 7 months, 16 years and 1 k'atun since [he] was born on 5 Ahau 3 Zec,

i u-CH'AM hun tu b'ah [ta] 5 Caban 0 Zotz'.
and then he took to himself the headband on 5 Caban Seating of Zotz'.

12-C

Figure I-14. Examples of Peak Events

u-nikil K'an Mo' Hix, u-huntan Ix Sak K'uk', [ta] 8 AHAU 13 POP SIY-aj.
Fronting: The Parentage Statement is fronted to the beginning of the sentence.



4 CHICCHAN 1 AHAU 8 KAYAB u-CHUM-tun Sak K'uk' 13 YAX neb'i Sak K'uk'
Sentence Insertion: The Period Ending is inserted in the Death Statement.

Sentences with Intransitive verbs or Positional verbs have only two elements, the Verb and its Subject. There is also an Existential verb in Chol and other Mayan languages, which may occur in the hieroglyphic texts; it is followed by a single noun phrase, its Subject. Other kinds of sentences can be formed with two elements, neither of which is a Verb, properly speaking. In these cases one of the elements acts as a Predicate, the equivalent of a Verb, and the other acts as its Subject. All of these sentence types are Verb-initial in Chol and most other Mayan languages, and normal order for simple sentences in the hieroglyphic inscriptions seems to be Verb-initial as well.

If other elements are added, beyond the verb, its object and its subject, then the word order is likely to change. The new elements may occur first, as is usually the case with Temporal Adverbs, or some of the previous elements may be dropped. This seems to be related to restrictions on the number and length of noun phrases following the verb. (Rules governing run-on sentences existed even for the Classic Maya!) Thus, if both Object and Indirect Object are specified (or Object and Instrument, or Object and Location), the Subject may be omitted. Presumably the Subject is already "known" in these cases, that is, it is "old information." Any deviation from unmarked word order can be taken as an indication of special importance, or **foregrounding**. In hieroglyphic texts, the grammatical techniques for foregrounding include elaboration, fronting, promotion, and "marked" syntax or unusual grammar (Josserand 1989; see also Hofling 1989 for a discussion of highlighting in the Dresden Codex).

Elaboration can be as simple as adding to a ruler's name-phrase his or her titles, parentage, and other attributives. Coupleting, the repetition of a syntactic structure with slightly altered lexicon, can be considered a kind of elaboration, and indicates foregrounding. Fronting usually involves moving a phrase (subject or other argument) from its unmarked, post-verbal position to a pre-verbal one. Sentence-initial temporal phrases (e.g., Calendar Rounds) can be considered to have been fronted from an unmarked post-verbal position, and therefore to have been foregrounded.

Phrases which normally occur unmarked as low-level sentence constituents may be promoted to a higher level in a new sentence. Thus, the information which may be stated in an unmarked fashion as a temporal adverb (e.g., a Calendar Round), may be foregrounded by promoting it to Subject of the verb **ut** 'to come to pass' in an independent sentence. On the other hand, deletion of expected sentence elements (notably Subjects) in a string of sentences heightens dramatic tension, and has the effect of foregrounding the information (e.g., the name of the protagonist) when it is finally stated.

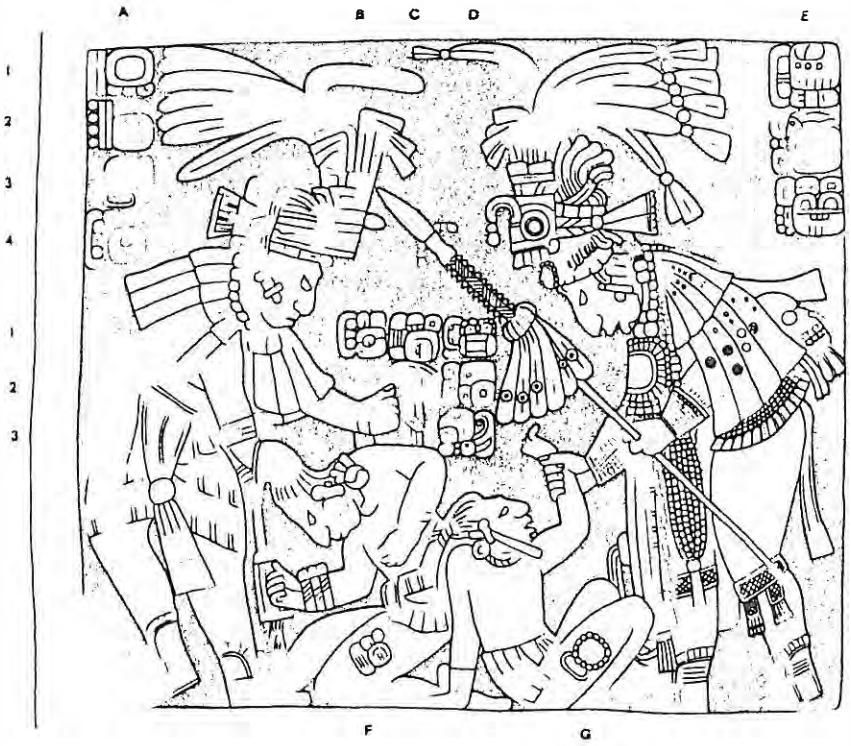
Sentences may be conjoined in such a way that one is clearly foregrounded with respect to the other (which is **backgrounded**). It is common to mark the verb of the foregrounded clause with the sentence conjunction **i** 'and then', while the backgrounded verb is marked with the perfective aspect suffix **-ya** (writing the suffix *-y*).

Finally, "unusual" syntax may also indicate foregrounding. In both Classical and modern Mayan literature, the peak events of a narrative are "zones of turbulence" (Longacre 1985). This turbulence may take the form of a combination of the foregrounding devices just discussed, or it can be more extreme. Perhaps the most extreme examples of syntactic turbulence in hieroglyphic texts are those several known instances in which an entire sentence is inserted into the middle of another sentence, as in the text from the Sarcophagus Rim, Palenque.

Text Composition

Maya hieroglyphic texts usually consist of one or more complete sentences; a few texts or discrete sections of text represent phrases rather than sentences. In these cases, the text is naming

Fig. I-15, Yaxchilan Lintel 8



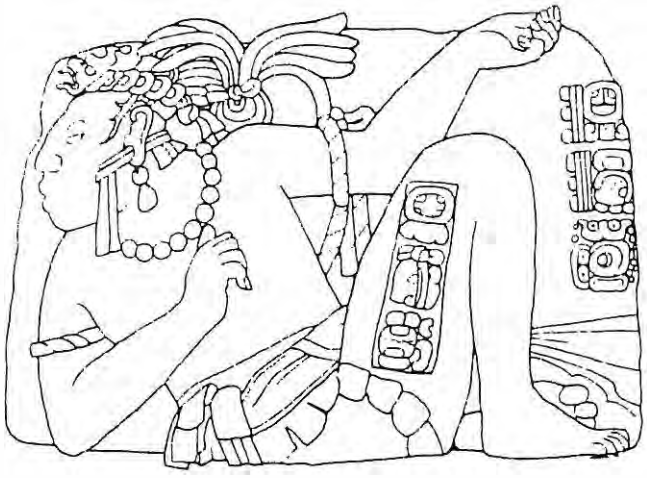


Figure I-16. Tonina, Monument 22

people or objects; the name of a pictured protagonist may appear near his face or head, or actually on the body. This is especially true for captives, such as Bird Jaguar's captive Jeweled Skull, whose name appears on his thigh on Yaxchilán Lintel 8 (Fig. I-15, Graham and von Euw 1977: 27), or king K'an Hoy Chitam of Palenque, shown as a captive on a monument found at Tonina (Fig. I-16).

Some artifacts, particularly small portable objects, bear simple statements giving the ownership of the object: "This is the sacrificial bowl of So-and-so" (Houston, Stuart and Taube 1989). Others bear a statement of authorship: "So-and-so painted this vase" (D. Stuart 1989b). Many stone monuments bear, along with their main text, smaller, often incised inscriptions which have been read as artists' or craftsmen's signatures (D. Stuart 1989b).

Probably the majority of inscriptions, however, and certainly the ones most interesting in terms of discourse structure, are longer texts. Long texts are usually historical and narrative in nature, that is, they tell a story, and they include specific dates or other temporal references that fix the reported event or series of events firmly in time. Such texts have translations resembling the following: "On such-and-such a date, So-and-so became ruler. So many days later, on another date, he performed a blood sacrifice; so many years after that, it was the end of a major time period." This genre of texts has the richest known displays of discourse phenomena.

Long historical texts may contain dozens of sentences, recording events which are placed chronologically with respect to each other through extensive use of dates in the Maya calendric system. The statement of a date itself may be very elaborate, involving a number of sentences, as in the Initial Series and Supplementary Series sequences which frequently open Classic texts. Or, a date may appear in a reduced form, perhaps only a Calendar Round. The events in a text may be tied to each other by statements of time elapsed (Distance Numbers) between dates (Calendar Rounds). Or events may be tied to unique chronological landmarks (e.g., Period Endings, ends of major time periods in the Long Count) to eliminate any possible chronological ambiguity. The function of these texts appears to be the recording of history, and this function is served only if the chronological place of the various events is clearly stated. A considerable percentage of a historical text, then, may be devoted to chronological markers, and these are frequently "fronted," placed at the beginning of sentences.

So extensive is the textual use of temporal frameworks, and so clear and precise the mathematics relating one date to another, that the chronology of many inscriptions was thoroughly understood long before modern scholars had any idea of the historical content of the inscriptions (cf. Thompson 1960). There was in fact a period in Mayan studies when leading scholars were convinced that the chronology was the **only** interpretable content, and that the remaining portions of the texts were devoted to arcane astronomical, astrological, and numerological concems beyond our comprehension. The major breakthrough in modern Mayan epigraphy has been the demonstration that the chronology is not the content, but merely the reference point for the important historical events being recorded by the Maya (Proskouriakoff 1960, 1963, 1964).

An understanding of the chronological framework of a text is essential to decipherment, since events are not necessarily presented in the order in which they occurred. But beyond matters of historical content, the manipulation of the time line is a key element in Classic Maya literary technique. Major internal divisions within a text may be explicitly marked by particular kinds of breaks in the time-line, and different sections of text may handle their chronology differently (Josserand 1991).

Relationships between sentences in a text also showed that many low-level discourse phenomena were marked in Maya hieroglyphic texts (cf. Schele 1981, on pronominal cross-

Figure I-17. Genres of Speech in Chamula Tzotzil (Gossen 1974:50-51)

k'op, words or language

lo'il k'op, ordinary or conversational language

k'op sventa xk'ixnah yo'nton, language for people with heated hearts
k'op sventa tahimol h'olol, children's improvised games
k'ehoh sventa h'olol, children's improvised songs
sk'op h'opisyal, oratory for cargoholders
k'op sventa kavilto, court language
k'op sventa chopol kirsano, emotional or bad language

puru k'op, pure words, oral tradition
'ach' k'op, recent words
batz'i 'ach' k'op, true recent narrative
'ach' lo'il, recent talk
chubah lo'il, crazy talk
'ixtol k'op, frivolous language
hut k'op, lies, untrue prose jokes
batz'i 'ixtol lo'il, truly frivolous talk, verbal dueling
mukul k'op, *baba k'op*, buried or superficial language
k'ehel k'op, obscure words, proverbs
hak'om k'op, hidden words, riddles
tahimol, tradtitional games
sventa muk'ta kirsano, adult games
sventa h'olol, childrren's games
'antivo k'op, ancient words
batz'i 'antivo k'op, true ancient narrative
sventa ba'yel banamil, First Creation narratives
sventa xcha'lomal banamil, Second Creation narratives
sventa yoxibal banamil, Third Creation narratives
k'op ta xak' riox, language for rendering holy
sventa bisob satik, for measuring the face, crossing oneself
sventa xich' Ho' h'olol, for baptism
sventa nupunel, for marriage
sventa muklumal, for burial
sventa kirsano, for laymen
sventa h'abtel xchi'uk h'ilol, for cargoholders and shamans
resal, prayer
sventa kirsano, for laymen
sventa 'anima, for the dead
sventa h'abtel, for cargoholders
sventa h'ilol, for shamans
sventa pale, for the priest
sventa chopol kirsano, for evil people (Protestants, witches, etc.)
k'ehoh, song
sventa yahval h'ch'uleletik, for the patron of our souls
sventa htotiketike, for the saints

reference, gapping, etc.). When discourse models of text linguistics were applied to the hieroglyphic texts, it was possible to demonstrate that texts also obey higher-level rules of structure, and can be treated as one or more genres of written literature (Josserand 1986, 1987, 1991). One such genre has characteristics similar to those of modern Mayan traditional narratives (Hopkins and Josserand in press); this genre includes the historical texts of the majority of stone monuments.

Literary Style

The basic grammatical structures of Maya hieroglyphic inscriptions are deliberately manipulated for artistic effect on many monuments. As in speech, placing phrases out of their normal or unmarked order calls attention to them; expressing a concept in an unusual way has the same effect. Specific linguistic techniques have the function of highlighting some events, while marking others as background. Narrative tension may be maintained by deleting mention of subjects through a series of clauses, making the eventual mention of the actor more dramatic. These and other literary devices are common in long texts, which are themselves divided into coherent sections not only by changes in chronology and content, but by explicit use of different linguistic constructions and manners of expressing events and the names of their protagonists (Josserand 1991).

A very important recent advance in the study of Mayan inscriptions is the discovery that monumental Classic texts are not sterile recitations of the facts of history, but are complex and carefully planned literary works whose artistry is on a par with (and integrated into) that of the accompanying architecture and iconography. It is our intent to describe and illustrate the elements of literary technique which have been established to date, and to relate them to the patterns of modern (oral) Mayan literature, specifically those of Chol, one of the direct descendants of the language of the southern Classic Maya area (Hopkins and Josserand in press).

The Maya Literary Tradition

One feature of culture that distinguishes modern Maya communities from other Mesoamerican groups is the richness of their oral tradition. Across the Maya area, from Guatemalan and Chiapas highlands to northern Yucatan, the Maya not only have a rich inventory of tales to tell, they also tell them very well. The stories, whether they relate the origin of the Sun and Moon, recite famous events of the past, or simply tell about a recent hunting trip, are well crafted. There is a strategy to the telling, and a rhythmic, repetitive style of narration that is characteristically Mayan.

Studies of Mayan languages (e.g., Gossen 1974; Fig. 1-17) show that there is a range of speech styles, from the less structured, less predictable extreme of casual conversation to the highly structured, almost inflexible, patterns of prayer. Between these two extremes lie intermediate types of speech, such as the ritual speech of civil and religious authorities, or the formal style employed for traditional narratives.

Other Mesoamerican groups have formal and informal speech patterns, and a common feature of Mesoamerica is the respect given to the good speaker. Being able to speak well is a prime factor in getting social recognition. Each language or language family has its own ways of marking speech as formal. Nahuatl, the language of the Aztecs, is famous for its honorifics – suffixes like *-tzin* which attach to nouns to make them special. While often called 'diminutive' and translated as 'little', this suffix (the inspiration for the modern Mexican Spanish tendency to add *-ito* 'diminutive' to nouns) actually has more of an honorific sense than one of small size: *no nan-tzin* 'our holy mother', *ta'-tzin-tli* 'venerated father' (Sullivan 1976:37-40).

Mayan languages mark formality by the device of repetition (Brody 1986), especially what are called **couplets** (Norman 1980). A couplet is a pair of similarly structured words, or phrases, or sentences, which differ only slightly in meaning. For us, rhyme is **phonological** rhyme, playing one word or syllable against another that sounds almost like it. For the Maya, rhyme is **semantic**, and they play words against one another for their meaning, not for their sound. To take an example, consider this excerpt from a Tzotzil Maya prayer (Vogt 1969:646-647).

En el ch'ul nompre yos hesukristo kahval	In the divine name of Jesus Christ my Lord,
K'usi yepal 'un htot,	So much my father,
K'usi yepal 'un kahval,	So much my lord,
Ta hk'an ti ch'ul pertonale	I beseech your divine pardon,
Ta hk'an ti ch'ul lesensiae,	I beseech your divine forgiveness,
Ti ta ch'ul ba meshae,	At the holy head of the table,
Ti ta ch'ul chak meshae...	At the holy foot of the table...

The prayer begins with an invocation (A): "*En el ch'ul nompre Yos, Jesukristo, Kahwal*;" "In the holy name of God (the Father), Jesus Christ (the Son) and Our Lord (the Holy Spirit)". It also ends with a similar phrase (*Amen*), and these two lines form a couplet which opens and closes the prayer. In between, each pair of lines forms a couplet. The first couplet (B) plays **my father** against **my lord**; the second (C) plays **divine pardon** against **divine forgiveness**, the third (D) plays **head of the table** against **foot of the table**, and so on. The rhyme scheme of this prayer is A BB CC DD... A. That is, the text consists of a series of couplets (BB, CC, DD, etc.), nested between the opening and closing invocations, themselves forming a framing couplet (A... A). Sometimes the pattern of repetition is like a mirror inversion ABCCBA. This is called a chiasmic structure, or "nested couplets." If this repetitive pairing of lines sounds somehow familiar, it may be because couplets are not exactly alien to our own poetic tradition, as we can see in this excerpt from Psalm 29 (Guilbert 1977:40):

The voice of the Lord is a powerful voice;
the voice of the Lord is a voice of splendor.
The voice of the Lord breaks the cedar trees;
the Lord breaks the cedars of Lebanon...
The voice of the Lord makes the oak trees writhe
and strips the forests bare.

Here we see couplets involving pairs like **powerful voice**: **voice of splendor**; **breaks the cedar trees**: **breaks the cedars of Lebanon**; **like a calf**: **like a young wild ox**, and so on. It is apparent that the language from which this text is translated had a couplet rhyming tradition like that of the Maya. In fact, one of the most useful discussions of couplets we have found is in a commentary on the Psalter (Guilbert 1978). In Maya culture, couplets also occur in ritual speech, as in the Tzotzil Maya oath of office for the Senior Alcalde Viejo (excerpt from Cancian 1965:223, reformatted):

Ah, Beloved Ancient Father,
has your earth arrived, has your mud arrived,
here beneath the foot, here beneath the hand,
of Señor Esquipulas,
Beloved Ancient Father?

Couplets also figure in the rhetorical structure of narrative texts, as in the Chol story about the Lightning god, Lak Mam. In modern narratives, the frequency of couplets increases around peak events – in this story a set of nested couplets marks the action climax as Lak Mam (Lightning) throws lightning bolts at a water animal who has him by the foot.

Che jale 'ora,	And then it happened,
k'iñlaw 'ab'i,	flashing, they say,
ñup'law 'ab'i,	crashing, they say,
tza' tyojmi jiñ chajki,	Lightning exploded,
b'a' tzi' ñijka 'i b'ä jiñ lak mami.	when Our Grandfather shook himself.
Tza jach 'i ñijka 'i b'ä,	He just shook himself,
tza' tyojmi jiñ chajki.	and lightning exploded.
Tza' tyiki jiñ ja'.	The water dried up.
Tza säjp'i jiñ ja',	The water went down,
ma che' ku 'añix ja'.	there wasn't any water any more.
K'iñlaw,	Flashing,
ñup'law 'ab'i 'añ.	crashing, they say, it was.
'Añ 'i chäñil ja',	The water animal
tza' chämi.	died.

A very important recent discovery is that not only couplets, but many other literary devices attested in modern Maya narratives (cf. Hopkins and Josserand 1986), are also found in the historical narratives inscribed in hieroglyphics on Classic Maya monuments (Josserand 1986). A good example is Quirigua Stela C (Fig, I-18; Hopkins 1995).

Quirigua Stela C is one of several Classic inscriptions that talks about the events that took place on the Creation date, 13.0.0.0.0, 4 Ahau 8 Cumku. The text on the east side of the monument begins with the Initial Series date of the Creation. It then relates the setting of three stones, each by a different deity, each in a different place, each called a different "throne stone." The text closes with a back reference to the Creation date and an attribution of the event to the Creator God Itzamna, called the Six Sky Lord.

The reader then moves from the east to the south face of the monument, where the Ruler I of Quirigua is pictured dancing in the guise of Itzamna – he (the Lord) has the axe of number Six in his eye and the crossed bands of the Sky in his mouth. The text moves to the west side of the stela, where a new Initial Series introduces an earlier 6 Ahau stela erection, presumably by an ancestor of Ruler I, then moves forward to the contemporary "scattering" by Ruler I on 6 Ahau.

The structure of the text on the east side is one of nested couplets. The opening date (13.0.0.0.0, 4 Ahau 8 Cumku) is coupleted by the closing line, "Thirteen b'ak'tuns were completed;" this is couplet set A. The second couplet (B) refers to three stones being set, without details. The third set (C) is a triplet describing the details of the stone setting. One of these statements uses a distinct verb for the event and arranges the details (the deity acting, the place, and name of the throne stone) in a different order. This is the peak event, and the actor is Itzamna. The chiasmic structure of the text is, then, ABCCCBA.

Figure I-18. Quirigua, Stela C, East Side

ISIG 13 bak'tuns 0 k'atuns 0 tuns 0 winals 0 k'ins, 4 Ahau 8 Cumku Creation Event

Three stones were set.

Erected a stone the Paddler Gods, in the Sky place, the Jaguar Throne stone.

Erected a stone the Black God, in Big Town place, the Snake Throne stone

And then, it happened: placed a stone Itzamna, the Water Throne stone, in the Sky place.

It was the First Three Stones (Hearth).

Ended 13 bak'tuns

under the authority of Six Sky Lord.

Quirigua Stela C

A1 13.0.0.0.0, 4 Ahau 8 Cumku, the Creation Event took place.
B1 Three stones were set.
C1 The Paddler Gods erected a stone, in the First Five Sky place;
it was the Jaguar Throne Stone.
C2 The Black Deity erected a stone, in the Large Town place;
it was the Snake Throne Stone.
C3 And then it came to pass that Itzamna set a stone,
the Water Throne Stone, in the Sky place.
B2 This was the First Three Stones (the First Hearth).
A2 13 b'ak'tuns were completed, under the supervision of the Six Sky Lord.

The Poetry of Classic Maya Inscriptions

Hieroglyphic texts are very poetic in their structure, as are traditional Mayan texts, whether they be prayers and rituals or tales of gods and heroes. The grammatical structures which characterize these language styles are formal and constrained. Where our poetry is governed by patterns of meter and rhyme, theirs is revealed in patterns of repetition and paired phrases (coupleting), in stanza structures and parallel constructions, and in word plays of many kinds.

The antiquity of the literary device of coupleting has long been suspected from its widespread occurrence across the Maya area. Now we are able to confirm that suspicion with actual written evidence. The Leiden Plaque, an early Tikal text, is in fact our earliest recorded example of Maya poetry. The text records a single event, the accession to office of the Early Classic Tikal ruler Zero Bird, in A.D. 320. But note how the date is coupleted with the event (Fig. I-19): "Seated was the month Yaxkin; seated was the ruler Zero Bird."

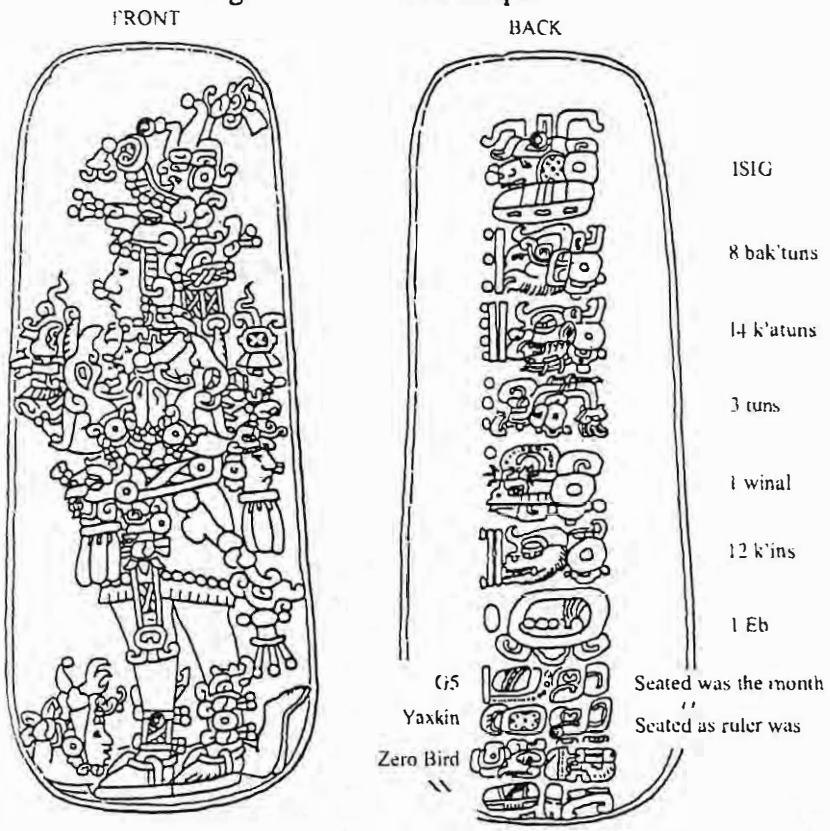
Visual Composition of the Texts

The structures which are so obvious when the hieroglyphic text is cut apart and rearranged on the page in structural analysis – or when a translation is laid out in verse form – **disappear** almost completely when the poetically-structured text is poured into the normal double-column format of a Maya monument.

But the text structure is not always lost completely. Sometimes, in fact, it is used strategically to emphasize a point. In Stela 12 of Yaxchilan (Fig. I-20), two statements are coupleted with one another, and are visually matched as well. The death of Shield Jaguar, stated in the left half of the text, is paired with the accession of his son and successor Bird Jaguar in the right half of the text, and the structural elements of the two statements correspond point for point.

Thus, the Maya scribes were well aware of the elements of text language structure, and could use them visually when they wished. However, the conventions of Maya monumental literature did not **require** that the structure be displayed visually. On the contrary, a famous example from Copan (Copan Stela J, Fig. I-21) shows just how well a literary structure can be transformed into something else. The text on one face continues to defy epigraphers, who can read each of the text segments which delineate the features of a god mask, but have no idea how they are to be put together. The text on the other face has been resolved: it has two sections, and each is recorded on a strip of flattened reed, the two strips then being woven together to form a mat, symbol of rulership.

Figure I-19. Leiden Plaque



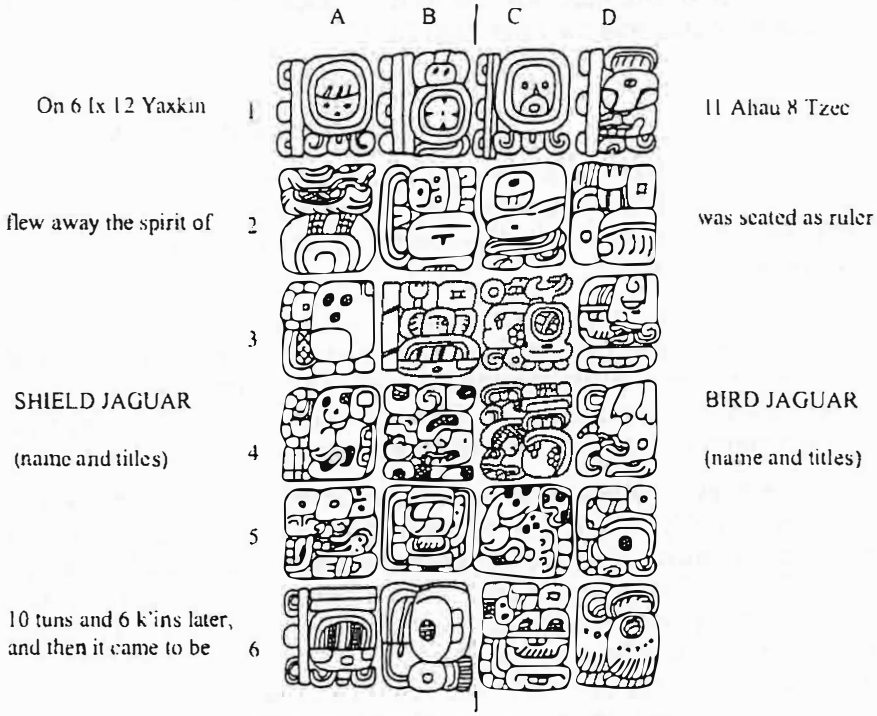
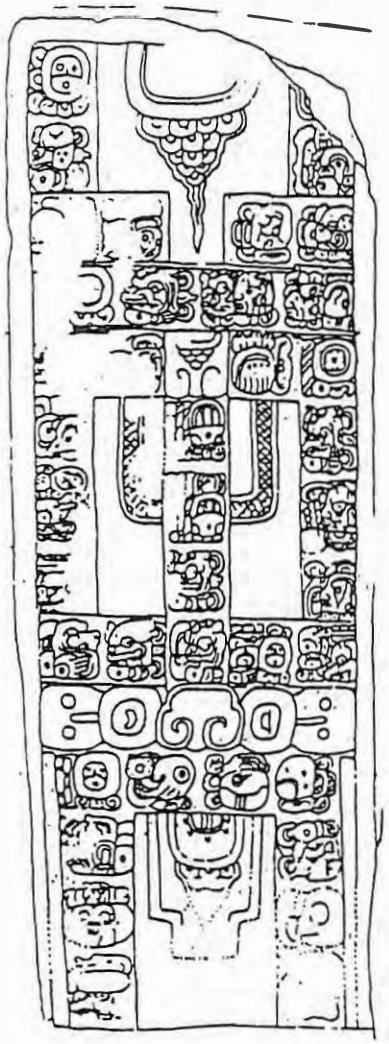


Figure I-20. Yaxchilan, Stela 12

Figure I-21. Copan, Stela J

FRONT

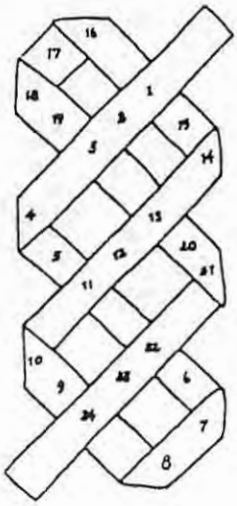


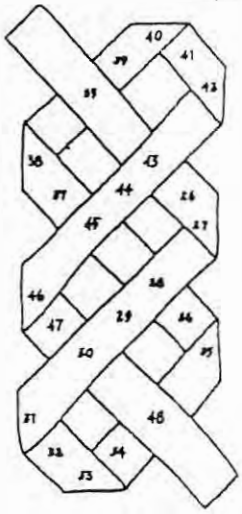
BACK

GOD MASK

MAT WEAVE

Episode 1





Episode 2

Figure I-22. Palenque, Tablet of the Cross

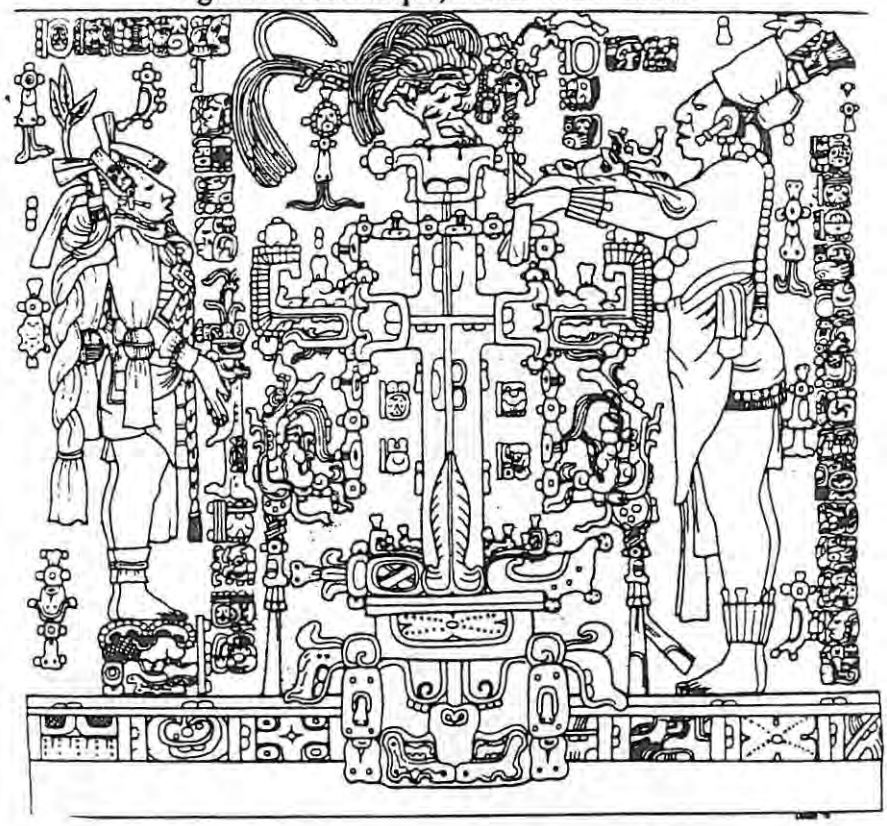


Figure I-23. Yaxchilan, Lintel 1

The Interplay of Text and Image

The description of the content, character and conventions of the images in Maya art is the traditional arena of the art historian and student of iconography. Several recent books and articles have addressed the narrative quality of Maya art, notably Berlo (1983), Clancy (1986), and Reents (1989). Schele and Miller (1986) review elements and canons of Maya art, and discuss Maya art as "a complex symbolic language with profoundly important social functions" (Schele and Miller 1986:41).

Other conventions relate to the interplay of the text and the accompanying images. Karen Bassie has recently presented a new synthesis of these unwritten rules of composition and their function in clarifying and augmenting the information given separately in the text and image portions of monuments (Bassie 1990). A very common pattern is to frame the image with blocks of text, forcing the eye to move across the image of the protagonist (or the topic of the text) in order to follow the reading order of the hieroglyphic inscription.

On the Tablet of the Cross from Palenque (Fig. I-22), the caption texts are arranged around the heads of the figures in the central image, identifying the actor and action portrayed in each. Another example of the same phenomenon is found on Yaxchilan Lintel 1 (Fig. I-23), which shows two figures, each framed by the text which relates his or her actions. The caption text is strategically divided across each figure's head, so that a portion of his name phrase ends the first segment, and the name phrase continues as the beginning of the next segment. Thus the reader's eyes must move across the ruler's body to continue with the text.

As an alternative to the first pattern, the text may frame the focused action itself rather than the protagonist, as on the katun-enclosure (twin pyramid complex) stelae of Tikal (Fig. I-24 shows the text and image of one of one such stela, Stela 22). On these stelae the focused event, a Period-Ending scattering rite (shown as drops descending from an outstretched hand), intrudes into a space framed by the text. The obligatory reading order requires the eye to move across the image of scattering.

It is clear from these examples and many others that there are **two layers** of composition in these texts. The inner layer is that of the **poetic structuring** of the language of the text, involving couplets and other rhetorical devices. The outer layer is that of the **visual composition** of the monument, in which the text is played against the images. This second, outer, layer of composition often ignores the first, and may disguise it beyond easy recognition. Elements in the text are placed not where their role in the language of the text would be emphasized, but where they contribute best to the overall visual impact of the monument.

On Dumbarton Oaks Relief Panel 1 (Fig. I-25), from a site subsidiary to Piedras Negras), the protagonist is framed by a text relating his birth, his parentage, his accession to an office (**kahal**, not supreme rule) and his death, further relating these events to the dynastic rule of the major site, Piedras Negras. As the protagonist stands holding his spear, he is framed by a text which begins with the time before his birth, surrounds him with the events of his life, and ends by relating time passed after his death. Not accidentally, his headdress touches his name glyph, behind his head (at G3).

The same kind of convention is reflected on Palenque's Tablet of the Slaves, a wall panel featuring a warrior rather than a supreme ruler. While the focused event in the language of the text is the accession of his patron the king, visually the protagonist's image is surrounded by the major events of his own life, and his name glyph lies just above and behind his head.

Figure I-24. Tikal, Stela 22

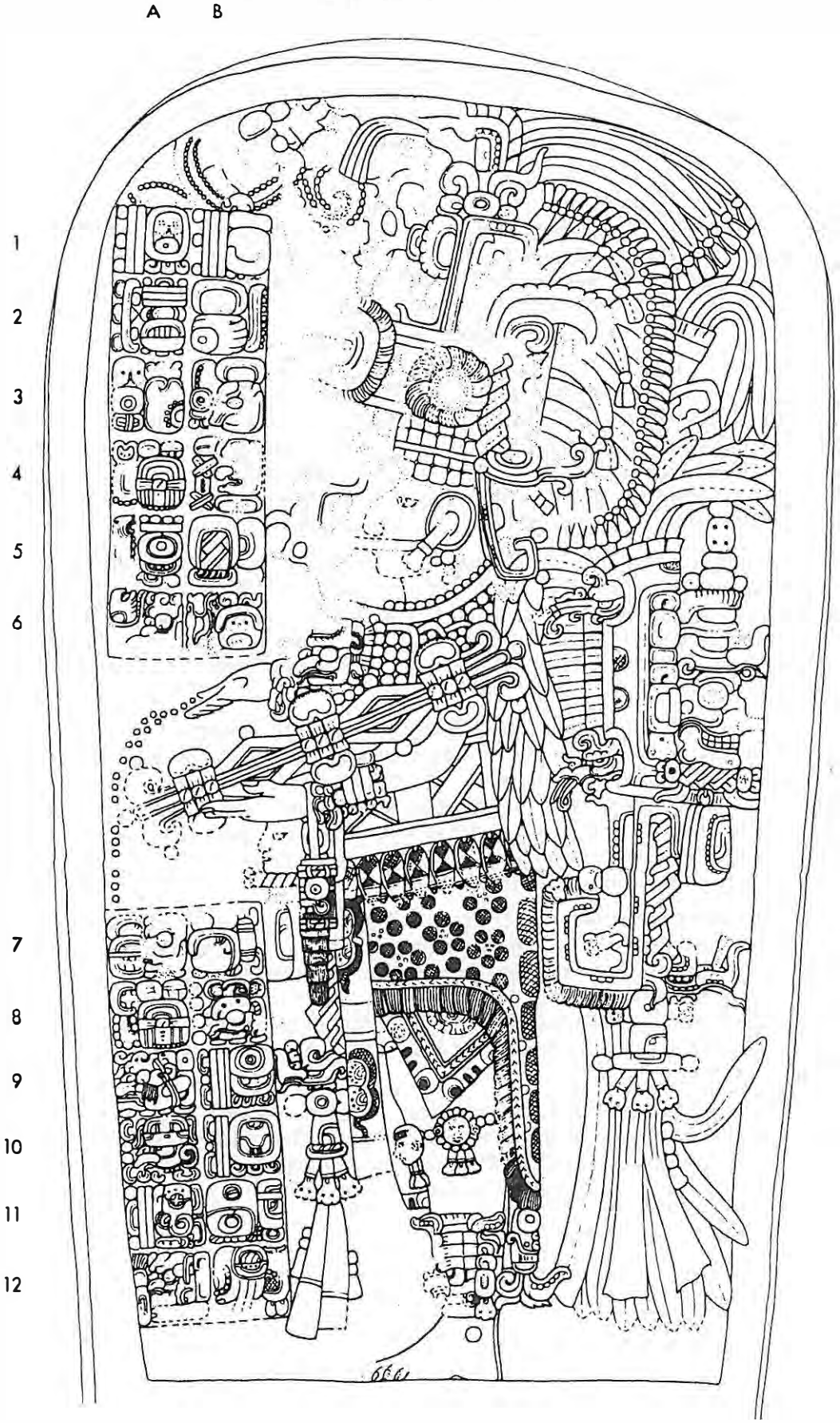


Figure I-25. Dumbarton Oaks Relief Panel 1

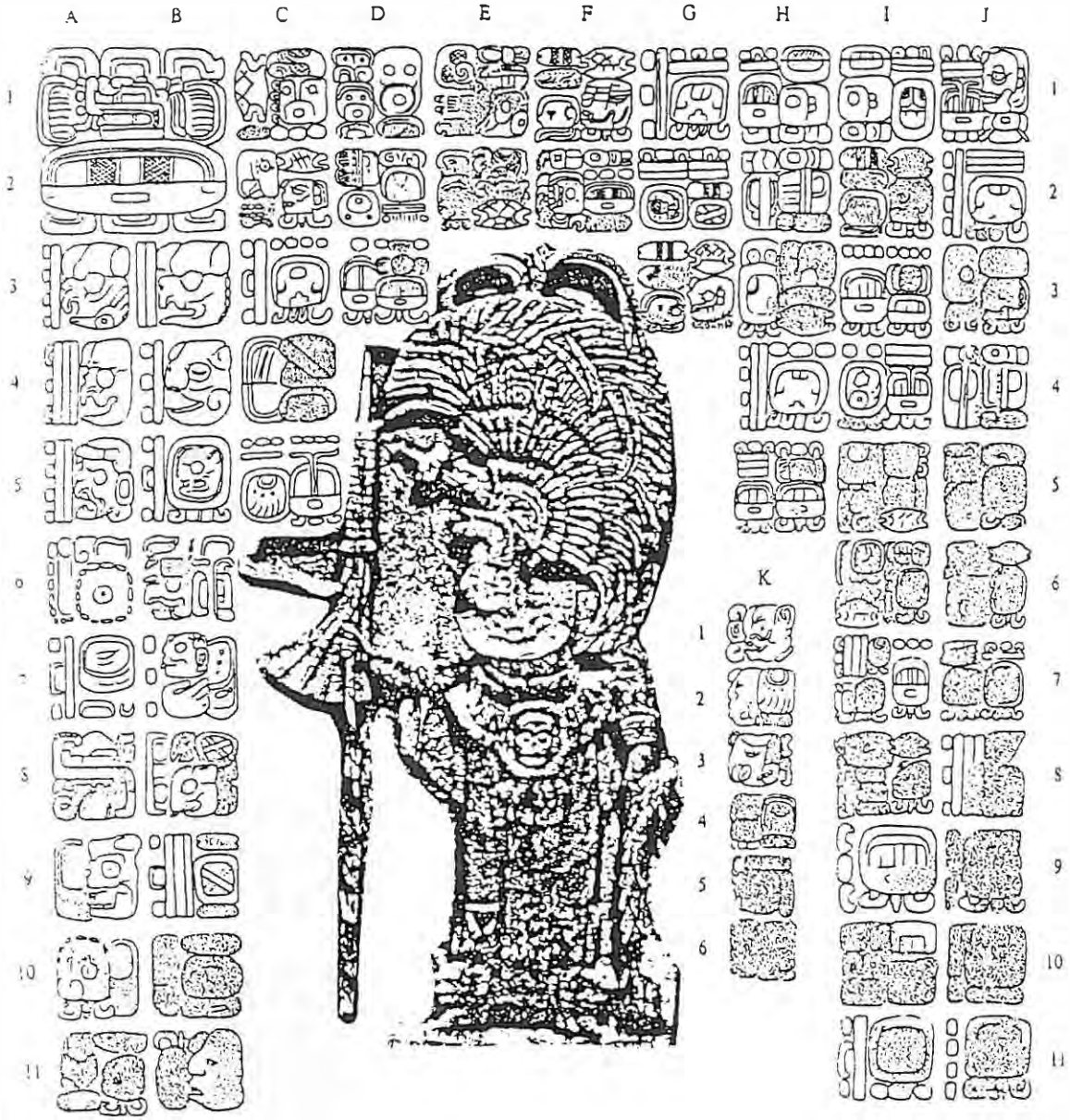
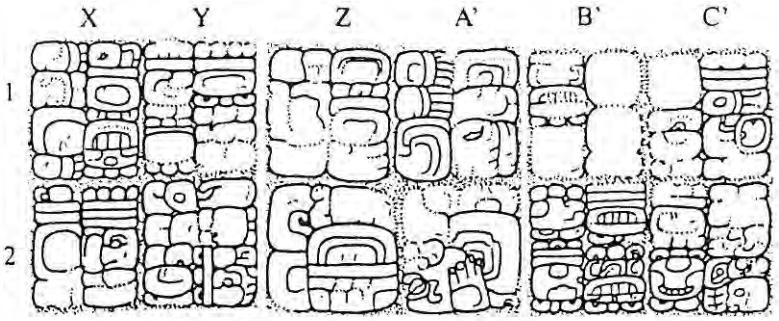


Figure I-26. Quirigua, Altar of Zoomorph O



Ruler's Name and Title

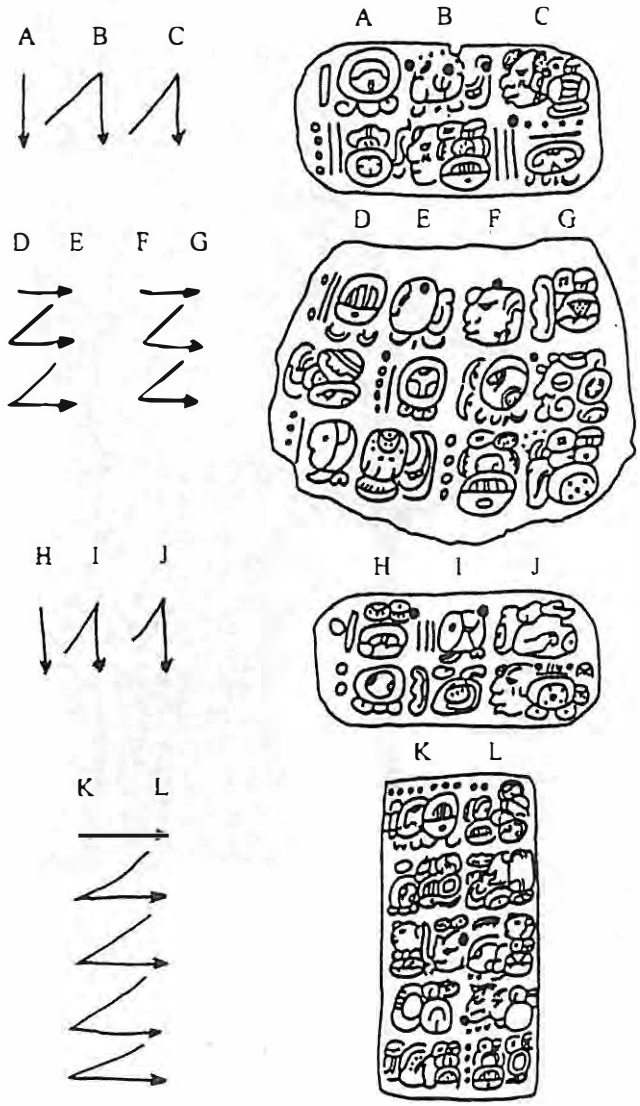


Figure I-27. Piedras Negras, Shell Plaques (Proskouriakoff)

There are other ways of making an protagonist's name more prominent in the text. On the Altar of Zoomorph O at Quirigua, the text reads around the monument in a counter-clockwise direction, starting in the middle with an Initial Series, near the dancing figure. The reader moves around the monument to follow the reading order, and the orientation of the glyph blocks changes accordingly in each section. But well into the text, doubtless around the peak event, the protagonist's name appears in glyph blocks that are roughly twice the size of the other glyphs (Fig. I-26); this is the Classic Maya equivalent of switching from normal 12-point type to 24-point Garamond Bold.

Finally, a technique which often reflects internal text structure involves changes in the reading order of glyphs within a glyph block or between glyph blocks. Normal reading order is left-to-right, top-to-bottom, in double columns, but there are any number of exceptions to this general rule. A particularly fetching example is the text on the Piedras Negras Shell Plaques from Burial 5. The reading order (shown in Fig. I-27) is different for each plaque, a little game the artist has played to give this piece even more charm.

On Interpreting Inscriptions

Mayan monumental texts have at least two major layers of composition: the poetic structure of the text language itself, and the artistic array of the text in relation to an image or space. In the composition of the language of the text, use is made of traditional rhetorical devices, such as couplets. In the artistic array of the text, there are other conventional mechanisms used to make names appear more prominent or stress some relationship the artist wishes to point out. Only a few of the techniques which have been identified have been discussed here.

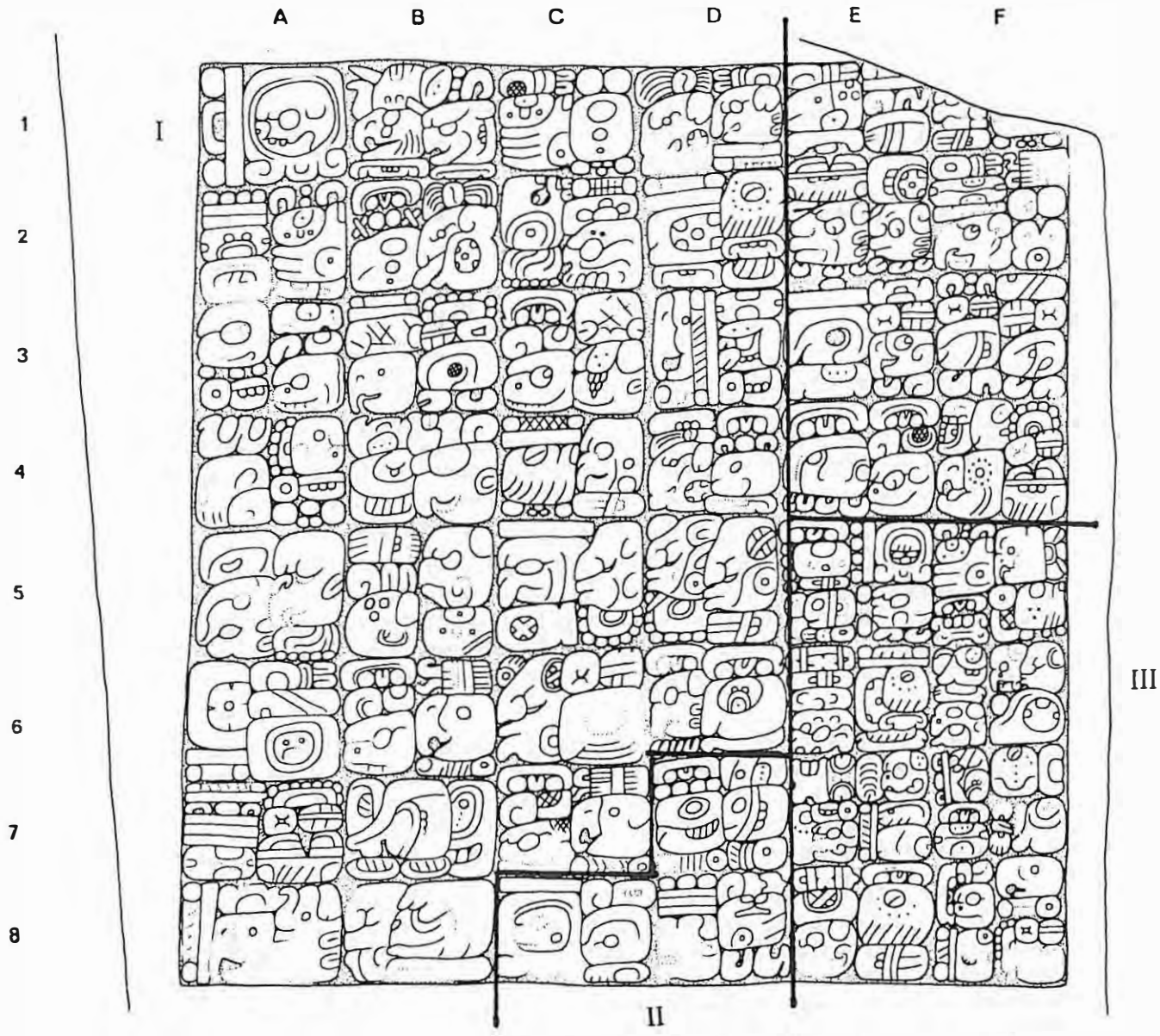
The medium on which the text is to be displayed has an effect on the possibilities which exist for artistic expression. A slim vertical shaft of stone (such as a stela) forces text and image into a different kind of space than the rectangular lintel or the wide, horizontal extension of a wall panel. Different opportunities are presented by a single monument and an integrated series of monuments. These factors affect the outer layer of composition, the array of an inscription in its context.

However, it appears to be the case that the differences in treatment which the various media demand do not significantly affect the inner layer of composition of the text, the language of the inscriptions, as much as they do the outer layer of composition. Similar language and text construction is found across media boundaries. The language of the text on the Leiden Plaque is not unlike that of the stelae.

In view of the regular occurrence of the devices which have been noted, Maya monumental inscriptions must be understood as literary and artistic creations of the highest order. There are many phenomena in the language of Classic texts which we used to think of as Maya **mistakes** – glyphs out of normal order, distance numbers leading nowhere, names deleted at critical points – but which we now have identified as elements in a repertory of devices used for literary effect. By the same token, we should understand that unexpected changes in reading order, in placement and relative size of glyphs, etc., are not evidence of haste, clumsiness, drugs or drunken stupor on the part of the sculptors, but are elements deliberately manipulated for their literary effect.

On Yaxchilan Lintel 10, the last monument to be carved at Yaxchilan, the glyphs are much bigger at the beginning of the text than at the end (Fig. I-28). For most of the text, the glyphs are to be read left to right within each glyph block (after the Calendar Round beginning, A2a-A2b, B2a-B2b, etc.) About halfway down the last double column, the text abruptly scales down the size of the

Figure I-28. Yaxchilan, Lintel 10



glyphs (beginning with the distance number expression at E5), and employs a somewhat unusual internal reading order: within the glyph blocks, each of which contains four glyph complexes of roughly equal size, the glyphs are to be read top to bottom on the left half, then top to bottom on the right half.

A few years ago, the prominent art historian Mary Miller, in an oral presentation, dismissed the relative size of the glyphs in the latter part of this inscription as the result of excessive haste: "things were happening so fast they couldn't get it all in," a sort of Maya equivalent of the badly spaced "Plan Ahead" signs which begin with proper spacing but crowd the later letters.

More recently, Martin and Grube (2000:137) characterized this lintel as "cramped in style and poorly executed." But they also note that the final passage of the text (E5-F8, the section where the glyphs are "cramped") contains the "most interesting information" in the text: it records the capture of the last ruler of Piedras Negras, Ruler 7, by the ruler of Yaxchilan. In other words, this is the peak event of the narration, a fact that is being marked by the scribes through the use of a distinct size of glyphs and a distinct reading order. This is not hasty composition or poorly executed writing. It is a deliberate use of alternatives to draw our attention to the most important event of the narration.

If we are to give to the Maya the credit due for their literary and artistic creations, we must go beyond facile interpretations. What we are seeing on the Classic monuments is not hastily-composed first drafts, but painstakingly crafted and artfully arranged literary texts incorporated into the iconography and architecture of the buildings and plazas where they were placed, in an impressive expression of a truly exceptional literary tradition. To the recognized arts and sciences of the Classic Maya – art, architecture, writing, mathematics, calendrics and astronomy – we must add the art and science of literature, the practice of which incorporates all of the others.

Figure I-29. Correlation between Maya and European Calendars

LONG COUNT – CHRISTIAN CORRELATIONS

Adapted from S. G. Morley *The Ancient Maya*, 1946

8.14.0.0.0	7 Ahau 3 Xul	AD 317, Sept. 1
8.14.5.0.0	13 Ahau 18 Zotz	AD 322, Aug. 6
8.14.10.0.0	6 Ahau 13 Zip	AD 327, July 11
8.14.15.0.0	12 Ahau 8 Uo	AD 332, June 14
8.15.0.0.0	5 Ahau 3 Pop	AD 337, May 19
8.15.5.0.0	11 Ahau 3 Cumku	AD 342, April 23
8.15.10.0.0	4 Ahau 18 Pax	AD 347, March 28
8.15.15.0.0	10 Ahau 13 Muan	AD 352, March 1
8.16.0.0.0	3 Ahau 8 Kankin	AD 357, Feb. 3
8.16.5.0.0	9 Ahau 3 Mac	AD 362, Jan. 8
8.16.10.0.0	2 Ahau 18 Zac	AD 366, Dec. 13
8.16.15.0.0	8 Ahau 13 Yax	AD 371, Nov. 17
8.17.0.0.0	1 Ahau 8 Chen	AD 376, Oct. 21
8.17.5.0.0	7 Ahau 3 Mol	AD 381, Sept. 25
8.17.10.0.0	13 Ahau 18 Xul	AD 386, Aug. 30
8.17.15.0.0	6 Ahau 13 Tzec	AD 391, Aug. 4
8.18.0.0.0	12 Ahau 8 Zotz	AD 396, July 8
8.18.5.0.0	5 Ahau 3 Zip	AD 401, June 12
8.18.10.0.0	11 Ahau 18 Pop	AD 406, May 17
8.18.15.0.0	4 Ahau 18 Cumku	AD 411, April 21
8.19.0.0.0	10 Ahau 13 Kayab	AD 416, March 25
8.19.5.0.0	3 Ahau 8 Pax	AD 421, Feb. 27
8.19.10.0.0	9 Ahau 3 Muan	AD 426, Feb. 1
8.19.15.0.0	2 Ahau 18 Mac	AD 431, Jan. 6
9.0.0.0.0	8 Ahau 13 Ceh	AD 435, Dec. 11
9.0.5.0.0	1 Ahau 8 Zac	AD 440, Nov. 14
9.0.10.0.0	7 Ahau 3 Yax	AD 445, Oct. 19
9.0.15.0.0	13 Ahau 18 Mol	AD 450, Sept 23
9.1.0.0.0	6 Ahau 13 Yaxkin	AD 455, Aug. 28
9.1.5.0.0	12 Ahau 8 Xul	AD 460, Aug. 1
9.1.10.0.0	5 Ahau 3 Tzec	AD 465, July 6
9.1.15.0.0	11 Ahau 18 Zip	AD 470, June 10
9.2.0.0.0	4 Ahau 13 Uo	AD 475, May 15
9.2.5.0.0	10 Ahau 8 Pop	AD 480, April 18
9.2.10.0.0	3 Ahau 8 Cumku	AD 485, March 23
9.2.15.0.0	9 Ahau 3 Kayab	AD 490, Feb. 25
9.3.0.0.0	2 Ahau 18 Muan	AD 495, Jan. 30
9.3.5.0.0	8 Ahau 13 Kankin	AD 500, Jan. 4
9.3.10.0.0	1 Ahau 8 Mac	AD 504, Dec. 9
9.3.15.0.0	7 Ahau 3 Ceh	AD 509, Nov. 13
9.4.0.0.0	13 Ahau 18 Yax	AD 514, Oct. 18
9.4.5.0.0	6 Ahau 13 Chen	AD 519, Sept. 22
9.4.10.0.0	12 Ahau 8 Mol	AD 524, Aug. 26
9.4.15.0.0	5 Ahau 3 Yaxkin	AD 529, July 31
9.5.0.0.0	11 Ahau 18 Tzec	AD 534, July 5
9.5.5.0.0	4 Ahau 13 Zotz	AD 539, June 9
9.5.10.0.0	10 Ahau 8 Zip	AD 544, May 13
9.5.15.0.0	3 Ahau 3 Uo	AD 549, April 17
9.6.0.0.0	9 Ahau 3 Uayeb	AD 554, March 22
9.6.5.0.0	2 Ahau 18 Kayab	AD 559, Feb. 24
9.6.10.0.0	8 Ahau 13 Pax	AD 564, Jan. 29
9.6.15.0.0	1 Ahau 8 Muan	AD 569, Jan. 2
9.7.0.0.0	7 Ahau 3 Kankin	AD 573, Dec. 7
9.7.5.0.0	13 Ahau 18 Ceh	AD 578, Nov. 11
9.7.10.0.0	6 Ahau 13 Zac	AD 583, Oct. 16
9.7.15.0.0	12 Ahau 8 Yax	AD 588, Sept 19
9.8.0.0.0	5 Ahau 3 Chen	AD 593, Aug. 24
9.8.5.0.0	11 Ahau 18 Yaxkin	AD 598, July 29
9.8.10.0.0	4 Ahau 13 Xul	AD 603, July 4
9.8.15.0.0	10 Ahau 8 Tzec	AD 608, June 7
9.9.0.0.0	3 Ahau 3 Zotz	AD 613, May 12
9.9.5.0.0	9 Ahau 18 Uo	AD 618, April 16
9.9.10.0.0	2 Ahau 13 Pop	AD 623, March 21
9.9.15.0.0	8 Ahau 13 Cumku	AD 628, Feb. 23
9.10.0.0.0	1 Ahau 8 Kayab	AD 633, Jan. 27
9.10.5.0.0	7 Ahau 3 Pax	AD 638, Jan. 1
9.10.10.0.0	13 Ahau 18 Kankin	AD 642, Dec. 6
9.10.15.0.0	6 Ahau 13 Mac	AD 647, Nov. 10
9.11.0.0.0	12 Ahau 8 Ceh	AD 652, Oct. 14
9.11.5.0.0	5 Ahau 3 Zac	AD 657, Sept. 18
9.11.10.0.0	11 Ahau 18 Chen	AD 662, Aug. 23
9.11.15.0.0	4 Ahau 13 Mol	AD 667, July 28
9.12.0.0.0	10 Ahau 8 Yaxkin	AD 672, July 1
9.12.5.0.0	3 Ahau 3 Xul	AD 677, June 5
9.12.10.0.0	9 Ahau 18 Zotz	AD 682, May 10
9.12.15.0.0	2 Ahau 13 Zip	AD 687, April 14
9.13.0.0.0	8 Ahau 8 Uo	AD 692, March 18
9.13.5.0.0	1 Ahau 3 Pop	AD 697, Feb. 20
9.13.10.0.0	7 Ahau 3 Cumku	AD 702, Jan. 26
9.13.15.0.0	13 Ahau 18 Pax	AD 706, Dec. 31
9.14.0.0.0	6 Ahau 13 Muan	AD 711, Dec. 5
9.14.5.0.0	12 Ahau 8 Kankin	AD 716, Nov. 8
9.14.10.0.0	5 Ahau 3 Mac	AD 721, Oct. 13
9.14.15.0.0	11 Ahau 18 Zac	AD 726, Sept 17
9.15.0.0.0	4 Ahau 13 Yax	AD 731, Aug. 22
9.15.5.0.0	10 Ahau 8 Chen	AD 736, July 26
9.15.10.0.0	3 Ahau 3 Mol	AD 741, June 30
9.15.15.0.0	9 Ahau 18 Xul	AD 746, June 4
9.16.0.0.0	2 Ahau 13 Tzec	AD 751, May 9
9.16.5.0.0	8 Ahau 8 Zotz	AD 756, April 12
9.16.10.0.0	1 Ahau 3 Zip	AD 761, March 17
9.16.15.0.0	7 Ahau 18 Pop	AD 766, Feb. 19
9.17.0.0.0	13 Ahau 18 Cumku	AD 771, Jan 24
9.17.5.0.0	6 Ahau 13 Kayab	AD 775, Dec. 29
9.17.10.0.0	12 Ahau 8 Pax	AD 780, Dec. 2
9.17.15.0.0	5 Ahau 3 Muan	AD 785, Nov. 6
9.18.0.0.0	11 Ahau 18 Mac	AD 790, Oct. 11
9.18.5.0.0	4 Ahau 13 Ceh	AD 795, Sept. 15
9.18.10.0.0	10 Ahau 8 Zac	AD 800, Aug. 19
9.18.15.0.0	3 Ahau 3 Yax	AD 805, July 24
9.19.0.0.0	9 Ahau 18 Mol	AD 810, June 28
9.19.5.0.0	2 Ahau 13 Yaxkin	AD 815, June 2
9.19.10.0.0	8 Ahau 8 Xul	AD 820, May 6
9.19.15.0.0	1 Ahau 3 Tzec	AD 825, April 10
10.0.0.0.0	7 Ahau 18 Zip	AD 830, March 15
10.0.5.0.0	13 Ahau 13 Uo	AD 835, Feb. 17
10.0.10.0.0	6 Ahau 8 Pop	AD 840, Jan. 22
10.0.15.0.0	12 Ahau 8 Cumku	AD 844, Dec. 26
10.1.0.0.0	5 Ahau 3 Kayab	AD 849, Nov. 30
10.1.5.0.0	11 Ahau 18 Muan	AD 854, Nov. 4
10.1.10.0.0	4 Ahau 13 Kankin	AD 859, Oct. 9
10.1.15.0.0	10 Ahau 8 Mac	AD 864, Sept. 12
10.2.0.0.0	3 Ahau 3 Ceh	AD 869, Aug. 17
10.2.5.0.0	9 Ahau 18 Yax	AD 874, July 22
10.2.10.0.0	2 Ahau 13 Chen	AD 879, June 26
10.2.15.0.0	8 Ahau 8 Mol	AD 884, May 30
10.3.0.0.0	1 Ahau 3 Yaxkin	AD 889, May 4
10.3.5.0.0	7 Ahau 18 Tzec	AD 894, April 8
10.3.10.0.0	13 Ahau 13 Zotz	AD 899, March 13
10.3.15.0.0	6 Ahau 8 Zip	AD 904, Feb. 16
10.4.0.0.0	12 Ahau 3 Uo	AD 909, Jan. 20