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The importance of language and bilinguality in the development, perpetuation, and "degeneration" or change of culture is a central theme throughout this treatise. Original pictorial representations of Mayan hieroglyphic sculpture are included as examples, and represent artistic styles and language variations of written Cholan and Yucatec. Modern Cholan and Yucatecan languages are important in the decipherment of Mayan hieroglyphic writing, because these two languages were the languages of the ancient hieroglyphs.

Bilinguality as a positive factor is considered in the florescence and duration of the central lowland Mayan area. The impact of Spanish language on indigenous languages of Mesoamerica is traced from 1519 to the present. Special consideration and speculation is given to the role of Yucatec and Chol as "divine" non secular languages in the florescence of Mesoamerican cultures.

This thesis is a continuation and development of undergraduate anthropologic field work undertaken in Mesoamerica during the 1970s.

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**Mayan Bilinguality and Cultural Change in
Ancient and Contemporary Mesoamerica**

**by
William H. Smith**

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MAYAN BILINGUALITY AND CULTURAL CHANGE IN ANCIENT AND CONTEMPORARY MESOAMERICA

CHAPTER ONE INTRODUCTION: THE ANCIENT MAYA

Millions of people today speak languages that are derived from two principal languages of the ancient Mayan hieroglyphs. These two languages are Yucatecan, which is spoken in the northern third of the Yucatan peninsula, and the Cholan group of languages (Chol, Chontal, and Chortl) which are spoken along the base of the southern lowlands from Palenque in the west, to Copan in the east (Schele and Freidel, 1990: 50). The geographic area between these two language regions of Yucatecan and Cholan was and to some extent, remains a bilingual area (see map on pg. 2).

Most of the ancient people occupying the Yucatan peninsula spoke Yucatecan and or Cholan, which are as similar as Spanish and Italian. This relative linguistic uniformity was a main factor in facilitating trade between different Mayan kingdoms, while serving to maintain peace and to provide people with a common Mayan identity (Schele and Freidel, 1990: 51). The largest and most enduring classic Mayan city-state was the magnificent city of Tikal in Guatemala, which along with El Mirador, Uaxactun, and several other large city-states existed in the bilingual area between "pure" Yucatecan and "pure" Cholan Mayan languages. Perhaps the added flexibility and lack of extreme linguistic polarization (or strict monolingualism), coupled with an advantageous position for trade, knowledge, and multiple political alliances, permitted the bilingual kingdoms to excel beyond their monolingual contemporaries (see map on pg. 2).

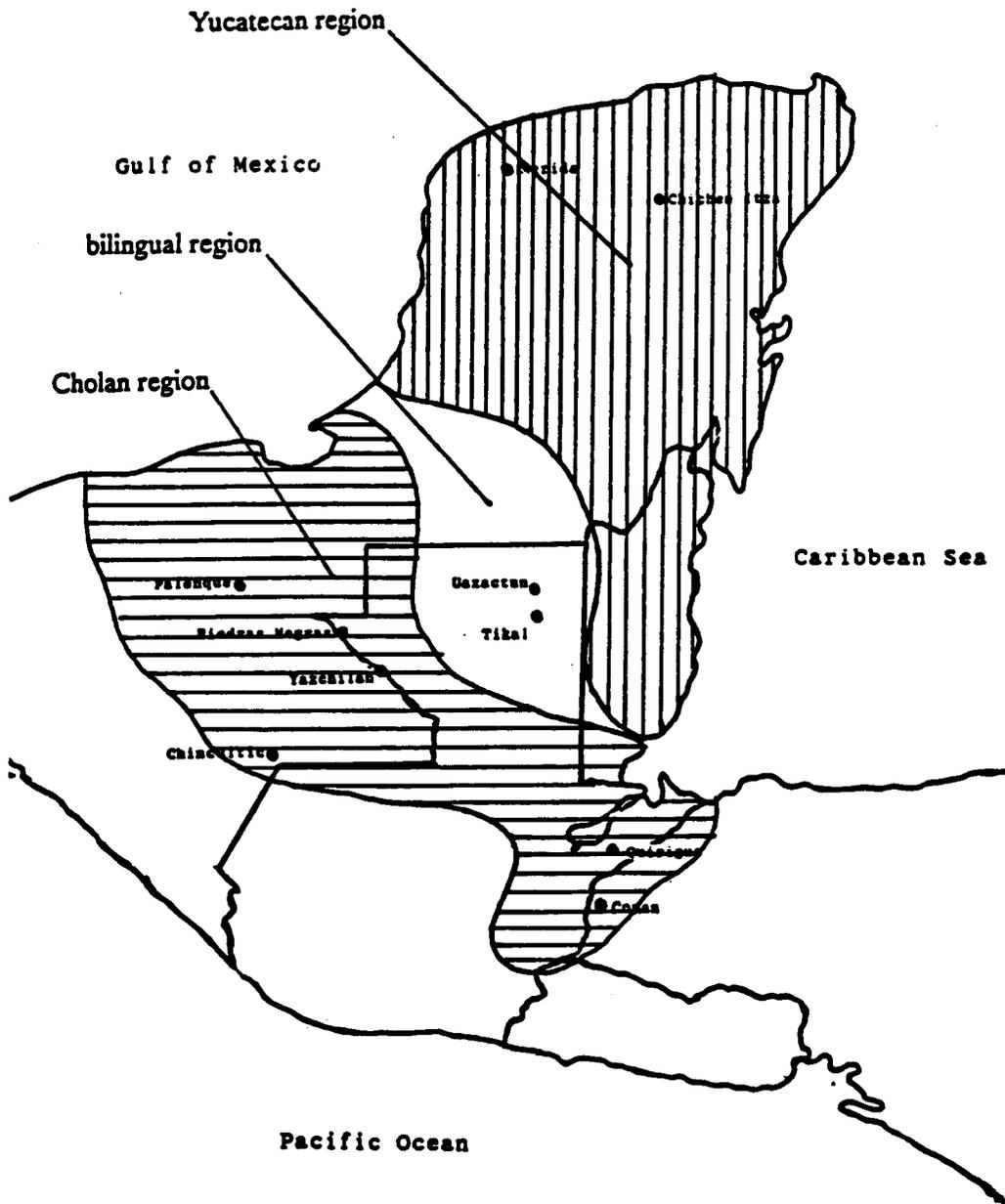


FIGURE 1
GEOGRAPHIC DISTRIBUTION OF YUCATECAN AND
CHOLAN MAYAN LANGUAGES

The Ancient Mayan city-states were similar to city-states in Ancient Greece in that they presented a unified ethnic identity to outsiders, especially barbarians, or those who spoke non-Mayan languages. Even when Mayan speakers could not precisely understand one other, the hieroglyphic writing system functioned as a intermediary similar to ancient Greek, or as the Chinese writing system has done for thousands of years (Schele and Freidel, 1990: 52). The Ancient Maya, like several other ancient cultures that developed and used ideographic or logographic writing systems, believed that their writing system was of divine origin (Arias-Larreta, 1964: 7). The ancient Maya specifically maintained that their hieroglyphics were a gift from their principal deity, Itzamna (Pei, 1963: 73, 74).

The social phenomenon of a non secular "divine" national language, has been politically used numerous times in the ancient and modern world. The ancient Chinese, like the ancient Maya, believed that their language was a gift from the gods. In the early twentieth century, Adolf Hitler attempted to deify the German language and use symbolic German language as an elitist unifying factor throughout the world.

The notion that a culture such as the Maya could be symbolically based upon a beautiful and highly fragrant flower, such as *Plumeria acutifolia*, is substantiated by the numerous depictions of the Mayan sun god Itzamna, wearing plumeria flowers (see Figure 7, on pg. 39). The plumeria was the Mayan hieroglyphic symbol for the sun or day, the cardinal directions, and procreation. The Mayan hieroglyphic writing system was a unique example of a

Stone Age written lingua franca, which permitted exacting recorded communications, and encouraged bilinguality, travel, trade, and regional unification.

Smoking Death Presiding Over Sacrifice

Of all the hieroglyphs found in Mayan civilization, one of the most interesting in regards to the bilinguality of the culture as a whole is "Smoking Death Presiding Over Sacrifice" (see Figure 2 on pg. 5). The painting of an open mouthed skull emitting what appears to be smoke or vapor is based on a low relief limestone carving from the great ball court in Chichen Itza, Yucatan, Mexico. The circular shape of the sculpture and its encapsulation border, probably indicate that this represents a divine ball, as that used in ball games throughout Mesoamerica. The great ballcourt at Chichen Itza was built in 1200 A.D., and is 480 feet long by 120 feet wide, which makes it the largest ballcourt in Mesoamerica (Ferguson and Royce, 1977: 143).

This round ball, or shield, portraying the smoking mouthed head of death, presides over the ritual sacrifice of the losing team in a ball game contest (Miller and Taube, 1993: 74). What may appear to be smoke or vapor (tobacco smoke) coming from the skull's mouth has also been described as a double speech glyph (Ferguson and Royce, 1977: 145). This double speech glyph may pertain to the ability of Smoking Death (Cimi) to speak in two different languages or dialects. This may have been

necessary, since the various ball players or sacrificial victims may have spoken languages or dialects different from those common to Chichen Itza.

As in the case of Kawil (God K) of the "Manikin Scepter," smoke coming from the head, an axe, torch, mirror or a "zicar," indicates divinity and paranormality. Smoke from copal incense (pom) was used to perfume and "prepare" priests, royalty, and sacrificial victims (von Hagen, 1961: 347).

In the case of the smoking skull from the great ball court at Chichen Itza which is emitting a "double speech glyph or scroll," we have a clear association of divinity with bilinguality (perhaps referring to dialects) and language. This particular sculpture substantiates my belief in the crucial importance of language, the ritual use of words, and the dependence on written language for the computation of dates, perpetuation of legacy, and the transfer of specific subsistence knowledge. All of the aforementioned were of paramount importance to the ancient Cholan and Yucatecan Maya of all social classes.

Language may be the basic foundation of all human cooperation and was instrumental in the rapid rise of the complex Mayan city-states. Language is all pervasive and influential, and in turn is influenced by, every form of human activity. I postulate that the particular circumstances of the Mayan language regions, and the outright divinity associated with Mayan language and hieroglyph writing points to language more than any other single factor, as being responsible for both the florescence and collapse of the ancient southern and northern lowland Maya city-states.



FIGURE 2
SMOKING DEATH PRESIDING OVER SACRIFICE

It is my opinion that many common Mayan hieroglyphic symbols were used by the common people or "middle class" in trade, record keeping, names, and in domestic religious uses. There are very few surviving examples of this use because common people could rarely record their artistic impulses or trade records in nonperishable monumental media such as limestone or jade. I feel that much of the common everyday use for hieroglyphic symbology was in the form of painting on easily perishable textiles, animal skins, and tattooing. This common language of the entire Mayan region including the bilingual central area, and its even more comprehensive written manifestations (coupled with dynamic trade and agricultural practices that allowed both strength and vulnerability), permitted the rapid rise of the magnificent city-states of both the southern and northern lowland Maya.

This same language advantage, in causing the rapid rise and flourishing of the lowland Mayan city states, was also instrumental in their dissolution and collapse. Common language provided ideas of revolution, change, jealousy, and the acquisition of material goods (or even the knowledge of the existence of material goods) to spread at a rapid rate. Practices of misbalanced agricultural production may also have spread rapidly, due to the influence of common spoken and written language. The lowland Mayan city-states were similar to the Greek city-states in that rivalries grew from the fact that city or regional identities were very important as unifying factors, and may have been difficult to acquire and maintain in a linguistically homogeneous region.

CHAPTER TWO LANGUAGE IN ANCIENT MESOAMERICA

Historic Overview of Language Development in Mexico

Amerinds entered North America approximately twenty-five thousand years ago primarily as hunters of big game. Six hundred generations and eight thousand years later in 7000 B.C., they reached the tip of South America. The physical, hereditary, cultural, and linguistic characteristics of these first Americans underwent great changes during the process of migration and the settling of North, Central, and South America (Wolf, 1959: 34).

In Mexico alone there are approximately two hundred and fifty separate languages. Mexico is still linguistically dominated by three *linguae francae*: Yucatec, Nahuatl, and Spanish. Spanish phonetics and structure continue to be very different from the indigenous languages of Mexico. Mayan and Nahuatl are polysynthetic in that they build meaning by the formation of long composite words. This is opposed to an analytic structure such as that found in Chinese and English, which build meaning by arranging short words in careful sequence (Wolf, 1959: 36).

In five thousand B.C., a belt of like dialects extended from northwest Mexico to present day Colombia in South America. In about four thousand B.C., this common language band was broken into two divisions. The language band divided into Uto Aztecan in the north, and into Chibchan in the south. Between four thousand and one thousand B.C., these parent tongues began to

differentiate. Uto Aztecan split into numerous daughter languages of which Nahua (precursor to Nahuatl), became the most important in later pre-Columbian history. Oto Zapotecan split into Otomian, Mixtecan, and Zapotecan. Otomian continues today to be concentrated in the valley of Toluca in Mexico.

Macro-Mayan was spoken along the entire gulf coast of what is now present day Mexico. Macro-Mayan dialects began to differentiate along the gulf coast with Huastec as its most northern example (Wolf, 1959: 41). As a result of the spread of Totonac and Zoque in the mid-gulf coast area, Huastec was cut off from its mother tongue (Macro-Mayan), and slowly began to change.

Between eight hundred and twelve hundred A.D., Nahua speakers came to dominate central Mexico. This expansion supposedly happened in two waves; one took place in eight hundred A.D. and the second expansion in about eleven hundred A.D.. The language of the earlier wave called Nahuat (eight hundred A.D.) lacked the characteristic "tl" sound often found at the end of Nahuatl words. The later linguistic wave was characterized by the inclusion of the "tl" suffix sound and was referred to as Nahuatl. Nahuatl was used by the Aztec Empire as a lingua franca, Nahuatl dialects are consequently found at the center of middle America, while the older dialects, such as Nahuat, are found in peripheral areas. Properly spoken Imperial Nahuatl became a prestige language and the universal lingua franca for Mesoamerica (Aztec Empires).

The Nahua speakers called those who could not speak proper Nahua or Nahuatl names (like the Greeks referring to non-Greek speakers as barbarians), that have stuck to this day and have been adopted as tribal or linguistic

names. "Chontal" means foreigner in Nahuatl, and "Totona" means rustic. "Mixtec" refers to "cloud land." "Zapotec" refers to the numerous sapote trees (*Achras sapota*) in the area of Zapotecas (Gates, 1990: 183). The center of Nahuatl speech (and also the center of the Mexica domain) became lake Texcoco. Over eight hundred thousand Nahuatl speakers presently live inland from the gulf coast of Mexico.

Brief History of Mayan Language

During the time of Nahuatl expansion and dominance in the central and upper gulf coast areas of Mexico, Mayan groups were growing stronger in Yucatan and the highlands of Chiapas. Even though Nahuatl speakers immigrated and lived among the Maya, they eventually lost their original language and adopted Mayan dialects. After nine hundred A.D. until the present, the map of Mayan languages and dialects shows very little change or few interruptions. Figure two details the major Maya dialects that evolved from Proto-Mayan. The basic Mayan speaking subgroups have remained reasonably intact despite numerous invasions and adversities. There are over thirty dialects of Mayan presently spoken. The physical types of people depicted on various ancient Mayan sculptures has remained very similar throughout Mayan history. This would indicate linguistic and cultural stability (Wolf, 1959: 43).

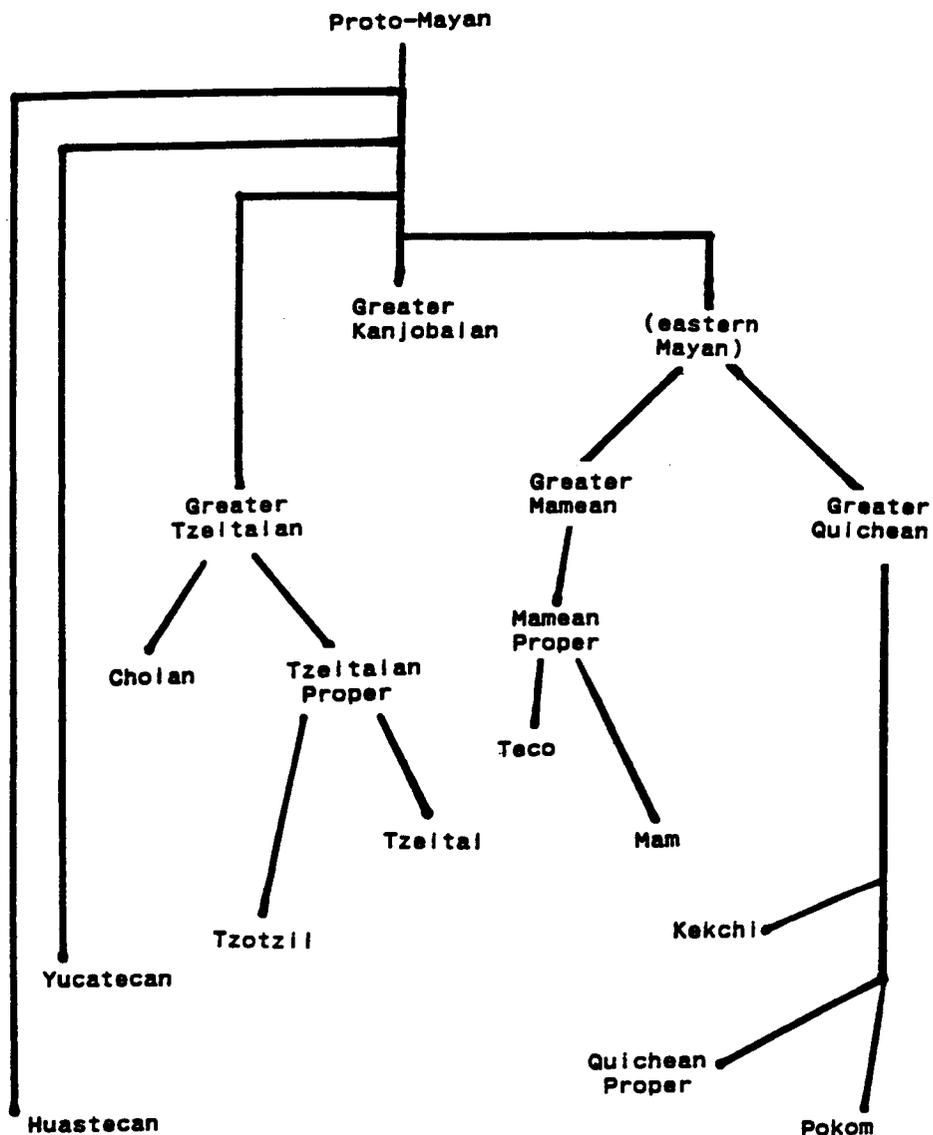


FIGURE 3
 PATHS OF RELATEDNESS AND DIVERGENCE OF MAJOR
 EASTERN AND WESTERN MAYAN LANGUAGES

The first recorded European contact with the Maya was the sighting of a large trading canoe by Christopher Columbus off the coast of Honduras. Years after the first contact by Columbus, several shipwrecked Spanish sailors lived among the Quintana Roo Maya and learned Mayan language and customs. These and other bilingual or multilingual "interpreters" were soon cleverly exploited by Hernando Cortez and other imperial conquistadors in the rapid colonization of Mesoamerica. The Spanish language of the conquistadors, which was to become the greatest lingua franca in Latin American history, was also the legacy of Roman imperial power in Spain. In spite of several foreign invasions of the Iberian Peninsula, Spanish survived (though not without numerous borrowed Arabic words), and remained entrenched as the dominant language of Iberia.

Castilian became the recognized official language of the emerging Imperial Spain in 1492. This auspicious year also marked the publication of the first Castilian grammar book, "Grammatica de la lengua Castilla" (Meyer and Sherman, 1991: 96). This book was written with the idea that it would be used to educate future imperial subjects in the language of the imperial state.

The Spanish formally landed in Yucatan in 1517. The governor of Cuba, Diego Velazquez, sent an expedition to Yucatan under the command of Francisco de Cordoba for the purpose of collecting and trading slaves. Owing to the fierceness of the Yucatecans, the Cordoba mission was a disaster, with over fifty Spaniards losing their lives (Meyer and Sherman, 1991: 96). The next year, Governor Velazquez sent his nephew Juan de Grivalva to explore the gulf coast. When Grivalva returned to Cuba, he brought

stories of a gold encrusted city in the interior of Mexico (Meyer and Sherman, 1991: 98). These oral stories concerning the Aztec capitol of Tenochtitlan were possibly the most far reaching and important gossip ever told in the western hemisphere.

Hernando Cortez was selected to explore these rumors. Cortez first landed on Cozumel Island, on the east coast of Yucatan, where friendly natives managed to tell him of two white men living in nearby Yucatan. Cortez soon recruited Jeronomo de Aguilar, one of the shipwrecked sailors mentioned by the natives of Cozumel. Aguilar knew the Mayan language well, and his skills would prove invaluable in the months ahead. In Tabasco on the west side of Yucatan, Cortez acquired the services and loyalty of a woman who would become instrumental in the conquest of Mesoamerica. Dona Marina "Malinche" was bilingual in Mayan and in Nahuatl. She would communicate with Indians in Nahuatl, and then translate into Mayan for Aguilar who would then translate into Spanish for Cortez (Diaz, 1963: 85-87).

The manipulation of language, perhaps more than any other single factor, facilitated the rapid conquest of Mesoamerica. The Spaniards thought that they were favored by God because of their "discovery" of the new world. They also adamantly believed that their Spanish language (akin to "Holy" Latin) was also part of God's divine order and dispensation. Spanish language became a trait of elitism throughout Mesoamerica. The ability to speak and write in Spanish usually determined ones economic, religious and social position or stratification.) (Meyer and Sherman, 1991: 98).

The word Mayan in fact is not indigenous to the Mayan language, but is of Spanish origin. The actual word Maya was never commonly used by the indigenous peoples of Yucatan to describe themselves before the advent of the Spaniards. The Spanish acquisition of the word "Mayan" is as follows; Columbus on his fourth and last voyage landed at Guanja, one of the bay islands off the coast of Honduras. There he encountered a massive trading canoe. When asked from where the Indians in the trading canoe had originated, their reply was "from a certain province called Mayam." From this brief encounter, all the indigenous Indians of Yucatan became known as Mayan.

Several years later another Spanish navigator landed in northern Yucatan. When this Spaniard asked the local natives who they were, their reply was "Ci-u-than" which meant "we don't know your speech." Thereafter, the land became known as Yucatan (von Hagen, 1961: 199).

CHAPTER THREE
THE SPANISH INCURSION AND INDIGENOUS
LANGUAGE DISPLACEMENT

Government and Education Policies

When Don Antonio de Mendoza arrived in Mexico fourteen years after the fall of Tenochtitlan, he was greeted by an Indian boy who recited in classic Latin. The Friars had been busy suppressing "inferior" indigenous Indian languages with so-called "superior" prestigious languages. The state and church were equally involved in this reeducation and conversion process which included attempted linguicide (Meyer and Sherman, 1991: 221). In order for the Indians to be religiously converted and purified according to the Catholic Church, they must have learned sufficient Spanish (Meyer and Sherman, 1991: 221).

Although many of the clergy were responsible for the loss of indigenous languages, certain clergymen preserved much of the native customs and languages. The missionaries created dictionaries and grammars which inadvertently helped to preserve and record native languages. Many friars became fluent in four or five native languages. The conquest and colonial establishment was greatly hastened by missionary activity. The Franciscan clergy gained power quickly because they became proficient in the Mayan language. Before the end of the Colonial period there were thirty-one established missions in the state of Campeche alone (Wilk and Ashmore, 1988: 75,76) (see map on pg. 16).

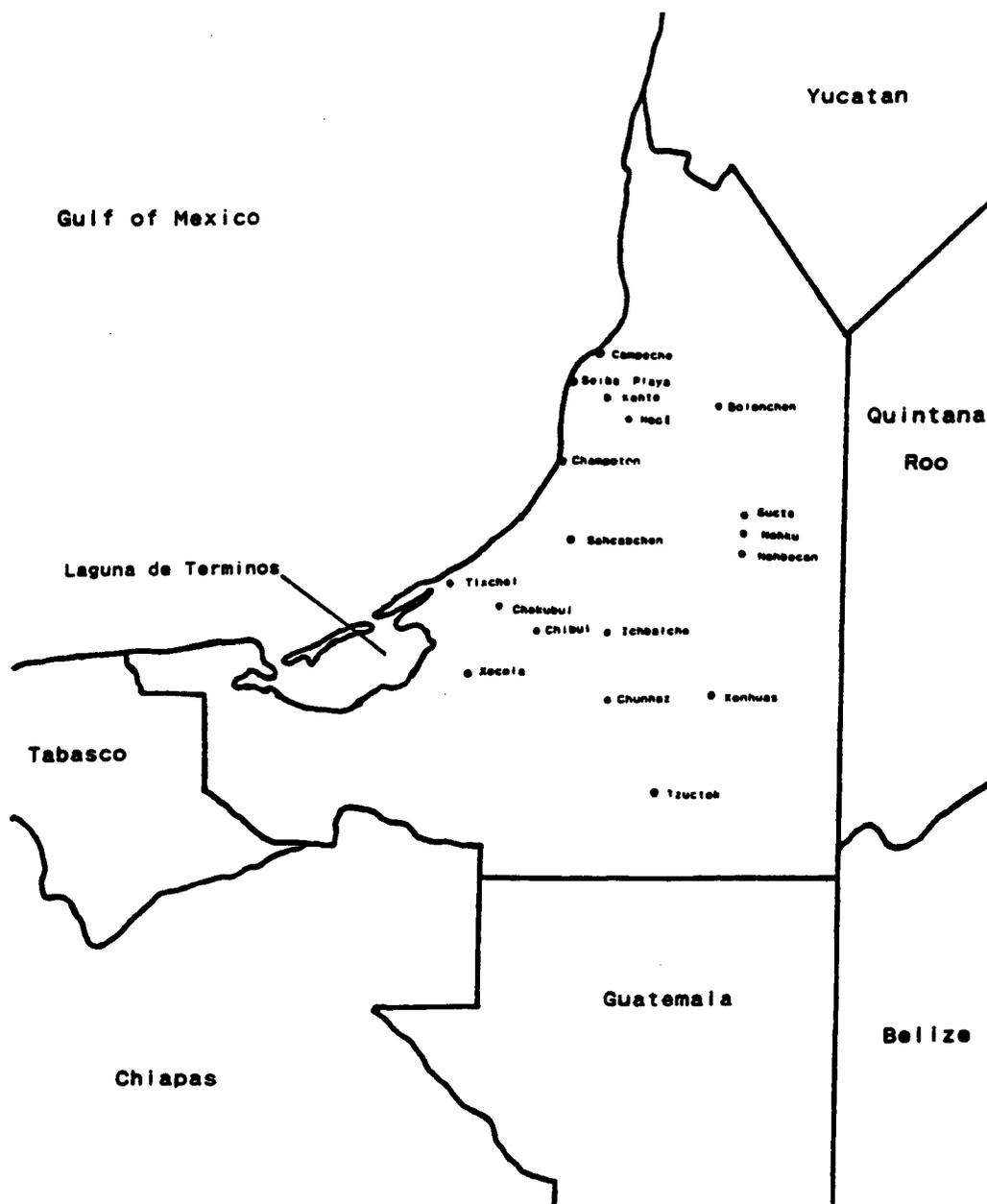


FIGURE 4
COLONIAL MISSION SETTLEMENTS IN CAMPECHE, MEXICO

In northwestern Mexico, the Jesuit educational policy in reference to the Yaqui Indians stated that it was superfluous, if not dangerous, to teach Spanish language to the natives, for by so doing you would allow them to become polluted by the outside world. This clerical language barrier fostered a dependency that allowed missionaries in general to assume the important role of culture brokers for the Indians. This included filtering and interpreting for the natives only what the missionaries considered desirable about secular matters (Hu-De Hart, 1981: 36). The non-Spanish (mostly German) missionaries were often more observant and realistic but less charitable than their Latin counterparts (Hu-De Hart, 1981: 113)

Mexico City had its first printing press around 1537 and one year later the first "book" was printed in Mexico. (Meyer and Sherman, 1991: 228). This was a religious pamphlet written in Nahuatl and Spanish by Bishop Zumarraga. Before sixteen hundred, about two hundred and twenty books had been produced in the capital of Mexico. During the colonial period (1521-1821) fifteen thousand books were printed in Mexico, including books in at least nine different Indian languages. Among these were religious studies, dictionaries, and grammars. The Spanish Inquisition in New Spain strictly controlled the nature of books that were printed (Meyer and Sherman, 1991: 228).

Although there were numerous private libraries in 18th century New Spain, there were no public libraries in colonial Mexico and no newspapers. Pasquines, a type of graffiti, were a popular means of voicing social

discontent or defiance and a common method for spreading rumors and news.

The new "Mexican" nationalism that appeared after the Mexican War of Independence in 1821 was primarily defined as not being traditionally Spanish. Mexico at this time was developing more of a mestizo and a non-peninsular consciousness. The word "Mexico" was changed at this time away from pure Castillian to a more "Mexican" form. The letter "j" of the Castillian word "Mejico" was dropped and replaced with the more Mexican and indigenous Indian letter "x." This substitution of "j" for "x" in the word Mexico was symbolically important in the metamorphosis of Mexican identity and nationalism (Meyer and Sherman, 1991: 369).

Racism under the guise of progress and científico denigrated Indian culture and languages. The historian Francisco Bulnes said that five million white Argentines (peninsulares) were worth more than fourteen million Mexican Indians (Meyer and Sherman, 1991: 457). Justo Sierra, Secretary of Education during part of the Porfiriato, and the first rector of the National University, argued that social and cultural forces (not biologic ones) had shaped the Indians "inferior" position.

Until 1920, nearly all schools built in Mexico were constructed in the cities, or where most of the criollos lived. In 1910, over two million Indians in Mexico could not speak Spanish. During the Porfiriato, the elite classes of people had French educations, and French governesses for their children. By the end of the Porfiriato, the French language was considered by the elite to be the most refined language, and was highly coveted (Meyer and Sherman, 1991: 474).

Alvaro Obregon (elected President of Mexico in 1920) named Jose Vasconcelos as Secretary of Education in 1910. Vasconcelos was the true patron of the rural school. He sent hundreds of teachers into villages to teach the basics and emphasize the Spanish Language. In order to read, write, and speak Spanish, children attended rural schools in the daytime and the adults attended at night (Meyer and Sherman, 1991: 572). Some villages were hostile, because they did not want to learn non-Indian ways and a "foreign" language (Spanish). Many priests were hostile as well because of perceived threats to their authority. Vasconcelo's plan was to include Indians into the mainstream of modern Mexican society. The following is a quote from Jose Vasconcelos: "I also set up auxiliary and provisional departments, to supervise teachers who would follow closely the methods of the Catholic missionaries of the colony among Indians who still do not know Spanish... Deliberately, I insisted that the Indian department should have no other purpose than to prepare the native to enter the common school by giving him the fundamental tools in Spanish, since I proposed to go contrary to the North American Protestant practice of approaching the problem of teaching the native as something special and separate from the rest of the population" (Meyer and Sherman, 1991: 573).

Between 1920 and 1924 over one thousand rural schools were established with language acquisition and refinement as their principal mission. These new schools were more than had been constructed in the previous fifty years. Over two thousand public libraries were established by 1924 (Meyer and Sherman, 1991: 574). Government presses printed millions of primary readers in Spanish. A typical

rural library consisted of fifty selected books packed into crates, and carried into remote villages on muleback. The church continued to be very instrumental in education and Spanish language acquisition.

When secular oriented Plutarco Calles became president in 1924, the educational system of Mexico had already been much improved. Calles continued the emphasis on rural education and added two thousand rural schools before 1928 (Meyer and Sherman, 1991: 584). To facilitate the acculturation of the Indians, heavy emphasis was placed on the teaching of Spanish. The government believed that only if Spanish became the language of the common village could the "Indian" be made an integral part of the national culture (Meyer and Sherman, 1991: 584). By 1940, it had become rare to find a native that spoke a non-Spanish language exclusively (Meyer and Sherman, 1991: 609). The rural school in the 1930s and 1940s became a focal point of village life. This was in part due to increased literacy in the Spanish language (Meyer and Sherman, 1991: 610). Nevertheless, and despite the fact that it is currently forbidden by law to teach Mayan language in Mexican public schools, Mayan languages and culture have survived.

The revitalization of Indian culture, history, languages, and the awareness of past accomplishments was furthered by anthropologists in the 1930s and 1940s. During Avila Camacho's presidency (1940-1946), the theme "each one teach one" was stressed to facilitate the reading and writing of Spanish, and laws were passed to implement this strategy. In Michoacan, criminal prisoners were given reduced sentences if they learned to read and write Spanish. The Bracero program during World War II

did much to introduce English language and North American customs to urban and rural Mexico.

In the 1950s, school attendance in Mexico remained low. Of the six million school children between six and fourteen years old, less than 2.25 million attended classes on a regular basis. Only one half of one percent of rural children finished the sixth grade in 1950 (Meyer and Sherman, 1991: 645). The educational policy of President Lopez Mateos renewed the emphasis on rural schools. By 1963, education was the largest single item in Mexico's budget. The sum allocated for education in 1963 was twice that allocated for defense. Illiteracy was cut from seventy-seven percent in 1910 to less than thirty-eight percent in 1960, but the population explosion partially nullified the statistical results (Meyer and Sherman, 1991: 645).

Pre-fabricated schools were provided to rural communities in the 1960s. These pre-fabricated schools had living quarters for teachers and free textbooks were provided by the government. These free books brought about protests from the Catholic Church because the church felt misrepresented. President Lopez Mateos disregarded the protests and continued to supply the books to the prefabricated rural schools. In 1980, the census showed a decline in the percentage of illiterates from twenty-eight percent in 1970 to seventeen and one-tenth percent by 1980, and included a drop of one and one half million in the absolute number of illiterates. It would seem that the work expended by governmental agencies to improve literacy in Spanish resulted in greatly increased literacy in Spanish after World War II (Meyer and Sherman, 1991: 707).

A number of interesting English syncretisms have come about in Mexico due primarily to modern North American influence. An example of this is the restaurant in Mexico City that displayed a sign reading "chili con carne with meat" and "Quik lonches" and "Kofi briek." Educators and the government in Mexico have not always cooperated with one another. Civil protests in Mexico City at the time of the 1968 Olympic Games, which culminated in the Tlatelolco massacre of over four hundred people, were primarily led by University educators and students. A slogan on a protest banner written in August 1968 by college and secondary teachers for democratic freedoms said "We teachers condemn the government for its terror tactics" (Poniatowska, 1975: 23,48). The sheer number of surviving indigenous languages of Mexico is a testimony to native peoples' autonomy, and the importance of language in the preservation of culture in spite of great governmental pressure to impose Spanish as the sole national language of Mexico.

CHAPTER FOUR SOCIOLINGUISTICS AND VARIATIONS OF MAYAN LANGUAGES

Sociolinguistics

Despite attempts by various governments to suppress Mayan languages, at the present time, there are fifteen major Mayan languages spoken, corrupted of course by English and Spanish syncretisms, and about thirty-five differentiated dialects in total. There are two main classifications of Mayan languages, Highland and Lowland (Thompson, 1971: 15). The predominant language of the lowlands, especially Yucatan itself, is Yucatec. As one travels southwestward from Yucatan there is a gradual transition to Chol and Tzotzil. This gradual transition of predominant languages is often a sign that indigenous peoples have remained relatively stable for an extended time period. Huastec on the northern gulf coast is closer to the lowland Mayan languages (Yucatec) than Yucatec is to most highland languages such as Quiche (Thompson, 1971: 17).

Yucatec is so virile that many "whites" (dzulob in Yucatec) in Yucatan are bilingual, and numerous rural mestizos speak very little Spanish. The previous facts seem interesting considering that the teaching of Yucatecan Maya in schools is currently forbidden by law in Mexico (Coe, 1992: 47).

The inventors of Mayan hieroglyphic writing spoke Yucatec and/or Chol. The verbal language of the glyphs could probably be understood by present day speakers of

Yucatec and Chol (Redfield, 1963: 46). Chorti is a subdialect of Chol differentiated by the substitution of "r" for the "l" of Chol. The two main dialects of Chol are classified as the western (Palencano Chol) and the eastern (Manche Chol), the latter being very similar phonetically to Yucatec. One major phonetic difference that Chol, Tzeltal, Tzotzil, and Chaneabal have from Yucatec is the sound of hard "c." In Chol the word for fish is "chal" but in Yucatec the word for fish is "cal." Another example of the soft "c" of Chol as opposed to the hard "c" of Yucatec is the word for earth. In Chol, earth is pronounced "chab" and in Yucatec earth is pronounced "cab."

Cholan dialects had the same importance to Mayan hieroglyphic writing that Coptic had to the ancient writing of Egypt. The three dialects of Cholan that are still spoken today are Chol, Chontal, and Chorti. Chol is spoken in Chiapas around the ruins of Palenque in the west, Chontal is spoken on the Gulf coast, and Chorti is spoken around the ruins of Copan, Honduras, in the east.

Cholti is an extinct member of the Cholan subgroup of Mayan languages. Cholti is known through a single document written between 1685 and 1695 in Manche Guatemala. This document is now in the American Philosophical Society Library in Philadelphia, Pennsylvania (Edmonson, 1985: 43). Part of this precious Cholti manuscript contains portions of Cholti translations of a Catechism, the Rosary, Sacraments, and a Manual for Confession which is written partly in Spanish. Most of the Cholti manuscript is devoted to a Spanish to Cholti vocabulary of over five-thousand items. Some entries give synonyms in one or both languages.

The modern Cholan languages—Chol, Chontal, and Chorti— are very similar to each other in their phonetic sound systems (Edmonson, 1985: 45). It is assumed that Cholti was not very different phonetically from the remaining living Cholan languages. Common to the surviving spoken Cholan languages are three consonant positions with plain voiceless stops (p, t, k) and three glottalized stops (p', t', k'), and five or six vowels (a, e, i, o, and u). The Cholti manuscript does not always distinguish glottalized consonants from plain consonants. The letter "k" is rendered in the Spanish que before "i" and "e" and as "c" elsewhere (Edmonson, 1985: 45). We cannot precisely identify the sixth vowel (variation of "a" or "e") in ancient Cholti. Vowel length is achieved by doubling the vowel letters or by an accent mark. The ancient language of Cholti is especially significant because the Cholan Mayan languages, with Cholti as their earliest documented representative, are now considered to be necessary to the decipherment of classic Mayan hieroglyphs. Numerous hieroglyphs may have been written specifically in Cholti (Edmonson, 1985: 45). A summary of Mayan pronunciation is included as Appendix I.

Three of the four surviving Mayan codices are in Yucatec. There was abundant interchange (loan words) of vocabulary between Yucatec and Cholan for at least one thousand years before the Spanish conquest (Coe, 1992: 50). Examples of important loan words in Mayan originally from the Mixe Zoquean family in the Isthmus of Tehuantepec (Olmec) include words such as "may" (to count) and "pom" (copal resin incense). These religious loan words testify to considerable trade and early contact between Mesoamerican cultures (Coe, 1987: 26,27).

All the various Mayan languages spoken today have been affected one way or another by Spanish Imperialism. One striking example of this is the fact that most Mayan speaking peoples who could at one time count into the millions in Mayan, cannot presently count in their native Mayan beyond the number five. The emphasis placed upon Spanish as the written and printed word is probably the greatest threat to the complete survival of the Mayan languages. Though a village may predominately speak Mayan, any "for sale" sign or public notice is invariably written in Spanish (Redfield, 1964: 141).

One great distinction between European languages (Spanish or English for example) and Mayan is the importance put on glottalized or unglottalized consonants by the Maya (Whittaker and Warkentin 1965: 11). Another important characteristic of Mayan is the glottal stop, which is similar to the sound produced in English by throat constriction when saying the expression uh-oh! (Coe, 1992: 51). The glottal stop is written with an apostrophe or question mark without the dot. The important "Mexican" letter "x" is pronounced "sh" in Mayan.

Words in Mayan are polysynthetic and, in effect, what is said in one word of Mayan might require an entire sentence in English. Descriptive adjectives in Yucatec are few, and common adjectives for size include *no hoch* "large" and *chichan* "small". Degree is expressed by the words *hach* "very", and "very large" is *hach no hoch*.

Tenses do not really exist in Yucatec. There are no past, present, or future tenses of the kind familiar to us as English speakers. Instead there are aspect words or inflections. In Mayan sentence construction there is the

Important use of numerical classifiers which describe the class to which an object, animal, plant, or thing belongs. Some examples are; to describe three horses in a pasture you would say "ox tul tzimin" (ox; "three"; -tul, classifier for animate things; tzimin, "horse or tapir"). On the other hand, if I want to say three stones, I would say "ox-p'el tunich" (ox; "three"; -p'el, classifier for inanimate things; tunich, "stone").

Compared with Indo-European languages such as Colonial Imperial Spanish, Mayan is without gender. One and the same pronouns are used for he, she, and it. Male and female names and titles are prefixed by particles indicating sex. In Yucatec these are "ah" for men and "ix" for women. Examples are ah dzib (he of writing) and ix cheel (Lady rainbow) (Coe, 1992: 53). Mayan employs the word order verb, object, and subject (swims the ocean the man).

There are six published dictionaries for Yucatecan Maya (Coe, 1992: 53). It is not too far-fetched to assume that a contributing reason for the survival of Yucatec and other Mayan languages is their extreme linguistic difference from Spanish. Mayan provides an ethnic identity or specific nationalism which is made more attractive by the continued exposure, predominately by anthropology, of the modern Maya's glorious cultural past.

The first two of the following charts (Table 1 and Table 2) demonstrate major and subtle variations between several Mayan languages. Table 3 exposes regional variations of four subdialects of Yucatec numbers (one to twelve). The charts provide a specific look at Mayan language affiliations and divergences. In the same way

these dialects of language and numbers may differ, so too may the Mayan hieroglyphic writing systems differ from one another, according to region or historic influences.

TABLE 1
MONTH NAMES IN FOUR MAYAN LANGUAGES

YUCATEC	CHOL	TZELTAL	TZOTZIL
Pop		Huc Uincil	Nichilkin
Uo	Icat	Uac Uincil	Hum Uincil
Zip	Chaccat	Ho Uincil	Xchibal Uincil
Zotz		Chan Uincil	Yoxchibal Uincil
Zec	Cazeu	Ox Uincil	Xchanibal Uincil
Xul	Chichin	Pom	Pom
Yaxkin	Ianguca	Yaxkin	Yaxkin
Mol	Mol	Mux	Mux
Ch'en	Zihora	Tzun	Tzun
Yax	Yax	Batzul	Batzul
Zac	Zac	Zacilab	Zizac
			Chaikin
Ceh	Chac	Ahelchac	Muctazac
Mac	Chantemat	Mac	Moc
Kankin	Uniu	Olalti	Olalti
Muan	Muhan	Hulol	Ulol
Pax	Ahkiku	Hoken Ahua	Okin Ahual
Kayab	Kanazi	Alauch	Uch
Cumku	Oih	Mucuch	Elech
Uayeb	Mahi Ikaba		

TABLE 2
DAY NAMES IN FOUR MAYAN LANGUAGES

YUCATEC	TZELTAL or TZOTZIL	QUICHE	POKOMCHI
Imix	Imox	Imox	Mox
Ik	Ikh	Ikh	Ik
Akbal	Uotan	Akhabal	Acabal
Kan	Khanan	Kat	Kat
Chicchan	Abakh	Can	Can
Cimi	Tox	Ceme	Cime
Manik	Moxic	Ceh	Kih
Lamat	Lambat	Khanil	Kanil
Muluc	Mulu	Toh	Toh
Oc	Elab	Tzih	Tzi
Chuen	Batz	Batz	Batz
Eb	Euob	Ee	Ih
Ben	Been	Ah	Ah
Ix	Hix	Iix	Ix
Men	Tzikin	Tzicin	Tzicin
Cib	Chabin	Ahmac	Ahmac
Caban	Chic	Noh	Noh
Etz'nab	Chinax	Tihax	Tihax
Cauac	Cahokh	Caoc	Cahuc
Ahau	Aghual	Hunahpu	Ahpu

TABLE 3
 NUMERATION IN SPECIFIC YUCATECAN DIALECTS

PETO	SOTUTA	TIZIMIN	VALLADO- LID	#
hun	hun	hum	un	1
ka	ka	ka	ka	2
os	os	os	os	3
kam	kan	kan	kan	4
ho	ho	ho	hok	5
wak	wak	wak	wak	6
usuk	wuk	wuk	huk	7
wasak	wasak	wasak	wasak	8
bolom	bolon	bolon	bolon	9
la-hun	la-hun	la-hun	la-hun	10
buluk-hun	buluk	buluk	buluk un la-hun	11
lah-ka	lah-ka	lah-ka	ka-la-hun	12

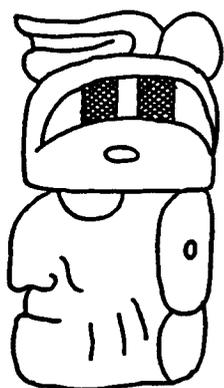
The following is a guide to interpreting numbers in the glyph "Monkey as Sixteen Days:" From the chart of head variant number glyphs (Figure 5 pg. 33), the two "head variant" numbers we see repeated in the Yaxchilan hieroglyph "Monkey as Sixteen Days," are the number six (designated by crossed axes in an enlarged eye orbit), and the number ten, designated by a fleshless lower jaw. These two head variant numbers (situated to the left of the seated monkey in the glyph "Monkey as Sixteen Days") total sixteen when added together.



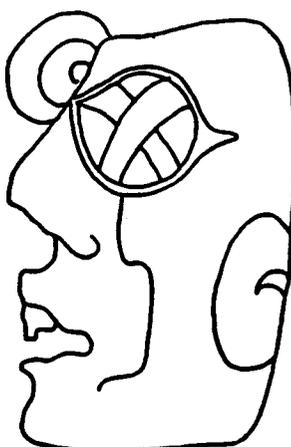
KATUN
7,200 DAYS



BAKTUN
144,000 DAYS



5
NO



6
UAC



10
LAHUN



9
BOLON

FIGURE 5
HEAD VARIANTS FOR SEVERAL MAYAN NUMBERS

Monkey as Sixteen Days

The ancient Maya were familiar with three different species of monkeys (Hunn, 1977: 203-204, & Miller and Taube, 1993: 117-118). Each had specific roles and meanings in Mayan rites and mythology. The three indigenous monkey species in Mesoamerica are the black howler (*Alouatta villosa*), called bac in Mayan, the capuchin, (no longer found in the area) and the spider monkey (*Ateles geoffroyi*), often called maax in Mayan. The spider monkey seemed to play the greatest role as a social and religious symbol (Stephens and Catherwood, 1969: 367-368, & Schele and Freidel, 1990: 410). In the western hemisphere spider monkeys range farther north than any other monkey species (Miller and Taube, 1993: 117).

The spider monkey (*Ateles geoffroyi*) was a symbol for craftiness, licentiousness, literacy, greed, envy, and curiosity (Miller and Taube, 1993: 118 & Thompson, 1971: 268). The monkey could also be used as a symbol for day [kin] or sun (Thompson, 1971: 11, 43, 167). This role could be depicted in the form of a head variant, or full figure glyph (Stuart and Stuart, 1977: 62).

The monkey-man scribe was a common theme in Aztec-Mayan art and myth (Coe, 1992: 249, 255 & Miller and Taube, 1993: 118). Repeatedly mentioned in the Mayan creation myth "Popol Vuh," the monkey (maax) was patron deity to artists, dancers, singers, scribes, and craftsmen (Thompson, 1971: 143). The eleventh day of the Yucatecan month chuen is also a word for the spider monkey and for craftsmen (Coe, 1992: 249, & Thompson, 1971: 80, & Tedlock, 1985: 119-122, 123, 342, 350, 353).

The low relief limestone carving of a seated monkey holding a head in its left hand, with a death's head

(kimi) below the left hand, was carved during the middle classic age in Yaxchilan, Mexico (Thompson, 1971: fig.47 no.2). It is part of a lintel whose combined glyphs represent the date of February 11th, 526 A.D. (Stuart, 1975: 770). The classic city of Yaxchilan is located on a curve of the Usamacinta river bordering Guatemala (Stuart, 1977: 51).

In this particular full figure glyph, the seated monkey represents a divine sign or idea for what we call one day (Thompson, 1971: fig.47 no.2). The monkeys' tail is auspicious, because it forms the (kan) or rattlesnake (*Crotalus durissus*) (Hunn, 1977: 239). When a being's leg or appendage forms a serpent in Mayan art, it is usually a sign of royalty or divinity (Thompson, 1971: fig.47 no.2).

The head that is being held in the left hand represents the head variant of the number six [uac] (Tozzer, 1977: 301). The deciding characteristic of the number six head variant is the large eye orbit encasing a pair of crossed axes (baat) (Thompson, 1971: fig.24 no.32-37, & Morley, 1975: 97, fig.51).

The lower head directly beneath head variant six is unquestionably the head variant corresponding to the number ten (lahun) (Tozzer, 1977: 301). The deciding characteristic of the number ten head variant (kimi) is the fleshless lower jaw (bone delineation), and other death head attributes (Thompson, 1971: fig. 24, no.56-620, & Morley, 1975: 98, fig.M-R) The number six head held in the monkeys' left hand (monkey representing one day), added to the number ten head directly below equals a total of sixteen days. The entire glyph thusly means the sum of sixteen days, or uaclahun kinob in Yucatecan.

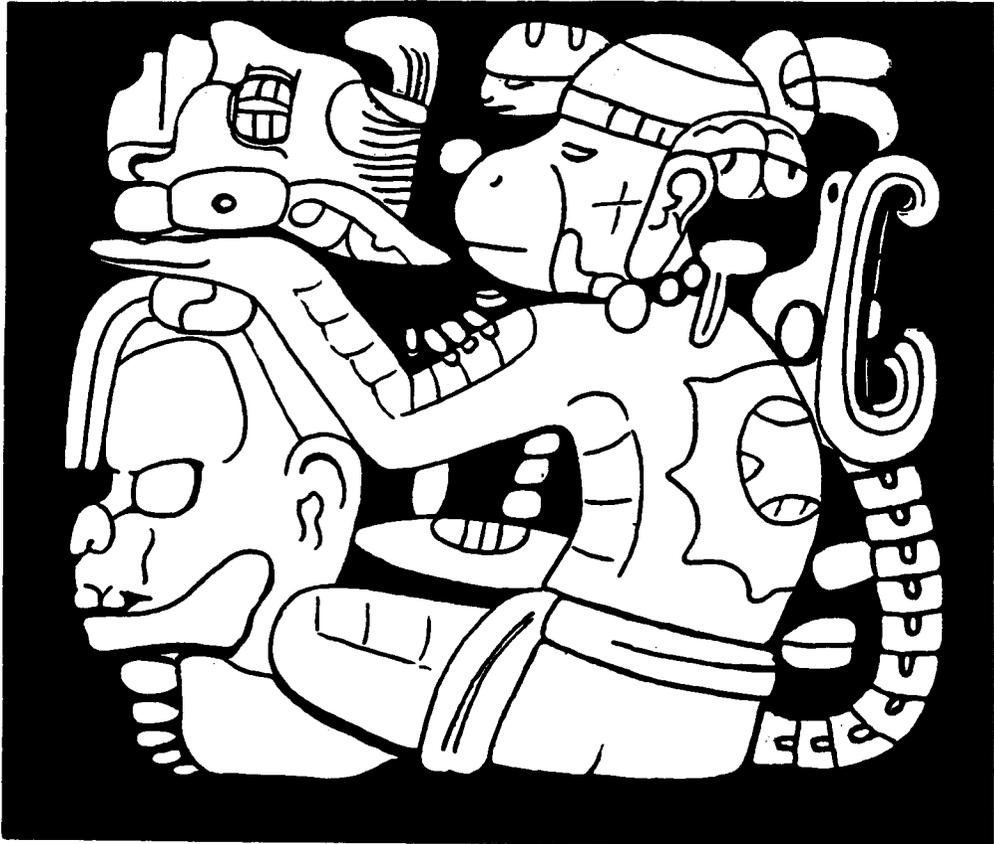


FIGURE 6
MONKEY AS SIXTEEN DAYS

Three Kin as Plumeria Flowers

The ability of these similar but at times subtly different hieroglyphs to be understood by all Mayans, whatever their particular spoken dialect, is perhaps best understood by looking at three "Kin" glyphs (Figure 7) from widely different areas.

The usual sign (apart from head variants or full figure glyphs), in Mayan hieroglyphic inscriptions for what we call day or sun was generally represented by variations of a four-petaled or lobed flower called kin (Yucatecan) or kih (Cholan) (Thompson, 1971: 11 & Morley, 1975: 72, & Tozzer, 1977: 299). This flower is generally recognized as the plumeria or frangipani (Thompson, 1971: 142). Plumeria (commonly referred to as *nicte* in Mayan), is found within the dogbane family (Apocynaceae), and comprises eight subspecies native to Central America (Sunset, 1988: 98, & Coyle, and Roberts, 1975: 150, & Pesman, 1962: 222). One subspecies most likely to represent the flower form most adored and deified by the ancient Maya is plumeria *Rubra acutifolia*, which has a highly fragrant five-petaled waxy white flower, with a rich yellow center (Everett, 1981: 2728, & Gates, 1990: 124, 159, 183).

The plumeria or frangipani species are cultivated in Hawaii and throughout Polynesia to make the traditional leis used for greetings and farewells. Plumerias are held sacred in Buddhist and Hindu temples and rituals, and are often planted in courtyards and cemeteries (Everett, 1981: 2727, & Graf, 1974: 487). To the ancient Maya, plumeria (*nicte*) was a symbol for the sun, sexual

intercourse, erotica, and procreation (Thompson, 1971: 11). The normally five-petaled plumeria flower was symbolically reduced to four petals, because four is the number over which the kin or sun god ruled, and equivalent to the four cardinal directions (Thompson, 1971: 142).

Besides the significant four-petaled form, symbolic solar colors of white and yellow, and intense intoxicating fragrance, the ancient Maya may have put the plumeria to use in various medicinal applications. All parts of the plants' structure contain a caustic milky sap which flows freely whenever the plant is cut. Perhaps this bleeding characteristic represented the white "blood" of the sun to the ancient Maya (Thompson, 1971: 142). Though this sap is sometimes considered poisonous, it has been used in folk medicines throughout the Caribbean, where plumeria is indigenous (Everett, 1981: 2727).

In this particular painting (Figure 7, page 35), I have portrayed three examples of the kin sign or glyph. I purposely chose two glyphs from virtually opposite geographic ends of the classic Mayan world, and one from its' approximate center. I did this to demonstrate that even though the verbal languages of various Mayan groups might differ according to geographic distance, they could still communicate specifically on some level by the use of these fairly universal symbols.

The kin glyph on the left is from Palenque (Chiapas, Mexico), which was the most westerly of the great classic Mayan cities (Schele and Freidel, 1990: 23). The kin glyph on the extreme right is from the classic Mayan city of Copan, Honduras, the most southeastern of the classic cities (Schele and Freidel, 1990: 24). The central kin glyph is from Uaxactun, Guatemala, which is in a Mayan

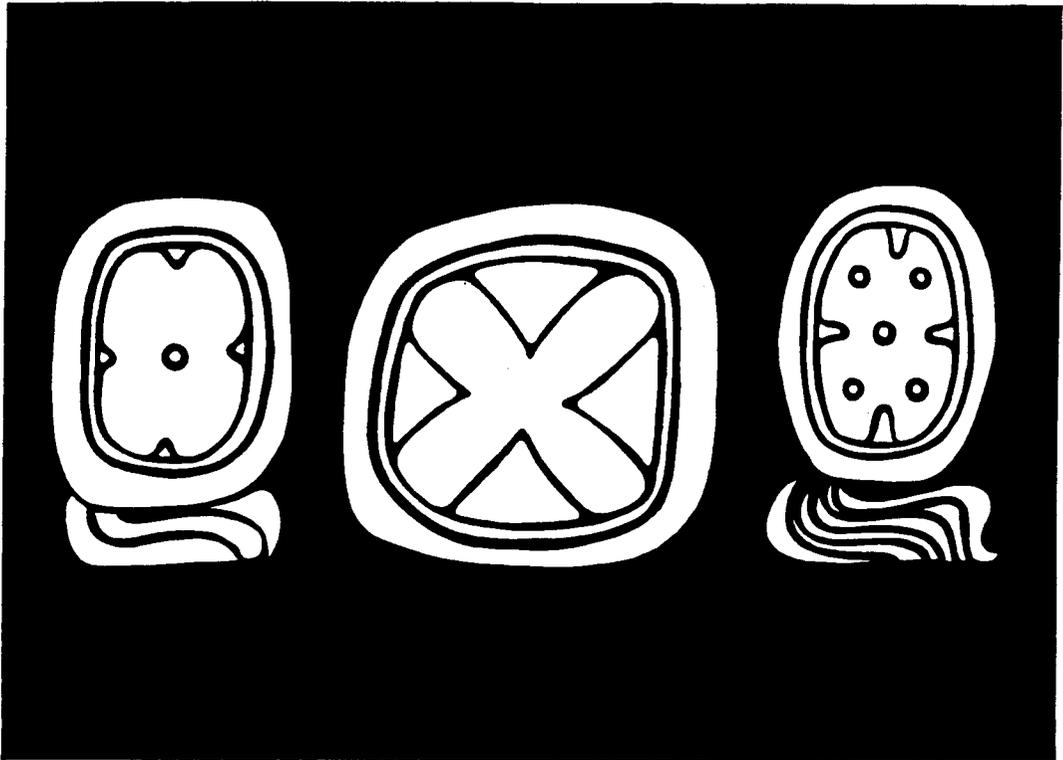


FIGURE 7
THREE KIN AS PLUMERIA FLOWERS

bilingual area, and is situated geographically between Palenque (left) and Copan (right) (Schele and Freidel, 1990: 22). It is interesting that in this particular case, the central "bilingual" glyph from Uaxactun is the most literally identifiable, as a plumeria flower, among the three kin glyphs portrayed.

Though the forms of the kin glyph may vary, it is clear that they are all based upon the form of the sacred *nicte* or *plumeria*. Any one of these three abstracted *plumeria* symbols means virtually the same (sun or one day) as the body of the monkey (a full-figure glyph) from the glyph "Monkey as Sixteen Days".

CHAPTER FIVE
LANGUAGE AS A CAUSATIVE FACTOR IN CULTURAL
GROWTH AND DECAY OF MAYAN CITY-STATES

Aspects of Cultural Florescence and Decay

The following are aspects of language and bilinguality that may have influenced the florescence of the southern and northern lowland Mayan city-states.

Record keeping, dates, and complex calendrics:

The classic Maya manifested the highest level of literacy attained in this hemisphere (perhaps in the entire ancient world). This level of literacy was necessary for the recording and transmission of exacting data such as calendrics and celestial cycles.

Relative peace between city-states and regions:

Lack of xenophobia to natives within the general Mayan speaking region. This is a similar characteristic in the development of the ancient Greek city-states where there were several dialects of spoken Greek and one written language. Anyone who could not speak some form of Greek would be termed "barbarian." Perhaps due to the stress of overpopulation or foreign influence, the "peace" of the Mayan mid-classic era (which was facilitated by linguistic commonality) had deteriorated by the post classic time period.

Intercity competition:

Non-militaristic competition must have stimulated

monumental construction among the classic Mayan city-states of the sixth, seventh, and eight centuries A.D.. These city-states may have formed loose alliances. Many linguists maintain that agriculture and sedentary pursuits (monument building), tend to give great stability to language; whereas warlike and nomadic tendencies may hasten its change. (Pei, 1963: 17).

Trade:

Ease of trade and social interaction. Trade between individuals or city-states is usually dependent upon benevolent peaceful relationships, and understandability or commonality of language.

Travel ease and opportunities:

Ease of travel is necessary for trade and the dissemination of ideology.

Technology dispersion and understanding:

Linguistic commonality and development of hieroglyphic writing permitted the recording and exacting reproduction of technical facts and ideas.

Religious commonality in "Mayan" linguistic symbology:

This factor has been a powerful unifying force throughout the world, as demonstrated by the modern Roman Catholic "empire".

Foci for cultural development:

Culture and population tended to develop around centers of hieroglyphic literacy.

The following are aspects of language, bilinguality, and other linguistic factors which might have been instrumental in causing the decay of lowland Mayan city-states.

Political, social, and economic spying (intelligence gathering):

This specific knowledge could be used in economic speculation; monopolies on food and luxury items, trade secrets of agriculture, architecture, hieroglyphics, manufacturing, medicine, and food production. These secrets may have been crucial for a state's individual identity among numerous similar city-states.

Limited regional political cohesion (understandably so in a region of autonomous city-states):

It is doubtful at this time that there was a strong regional central political authority, of any duration, that would have closely unified even a few of the many diverse Mayan city-states.

Competition:

In benevolent times competition could be beneficial to growth, but jealousy, rivalry, and militarism, have been shown to be serious impediments between common language cultures of states within nations or regions. Ancient Greece is a prime European example.

Language or dialectical elitism (Parisian complex):

This is one method of individualizing a city-state, and dominating others. When a written form of a language is developed or achieved, the result is usually a greater stability of the spoken tongue. The hieroglyphic writing

system which partially transcended the spoken dialects of Mayan did a great deal in "fixing" and giving Mayan language longevity. This is still apparent today in Mesoamerica even though virtually none of the native speaking Chol or Yucatec Mayans can read their ancestral language. A phonetic or semasiographic system of written language (as opposed to a purely ideographic form) has a strong tendency to formalize and standardize that language. In this way languages are preserved, and speakers are forced to follow traditional pronunciation (Pei, 1963: 73).

Even though the modern Mayan people cannot read or write their ancient hieroglyphic languages, these spoken languages nonetheless survive. Perhaps a language finds substantial stability if it continues to be spoken in the region and context where it initially developed.

Adjunctive Social and Environmental Elements Crucial to the Rise and Fall of the Lowland Mayan City-States

The following social phenomenon are main adjunctive elements other than language (although variously dependent on language) that may have brought about the rise and fall of the lowland Mayan city-states.

Population Growth:

Up to a certain point, increase in population was culturally stimulating and necessary to provide manpower for city-state development and expansion. This human

factor was especially important to the Maya who had no wheeled vehicles, machines, or beasts of burden.

Warfare:

Limited inter-city warfare may have been used in an attempt to unite or consolidate city-states or regions. Ultimately, of course, inter-city warfare among Mayan city-states was counter productive to cultural development and trade.

Agriculture:

Arboreal agriculture and other technologies could be quite stable, and relatively speaking, environmentally symbiotic and sustainable. Rapid population growth increased various dubious agricultural practices such as ditch drainage of land, which in turn eventually caused the build up of soil minerals that would not allow such staple food crops such as corn, to grow well .

Trade:

The use of a common language divided into two main dialects spoken in a vast and "closed" region, and also united by a universal written language, demonstrates some parallels of the classic Maya with ancient Greece and China. This relative unity within the very diverse area of Mesoamerica is exemplified by the similarity of ceramic manufacture that is found from northern Yucatan to the Guatemalan highlands (Adams, 1977: 375).

For the lowland Maya, the commonality of "divine" language eventually led to the conditions (peace, trade, and social cooperation) that first permitted dynamic population increase. Attendant with this rapid population

boom was an increase in agricultural intensification followed by warfare which was, perhaps, motivated in large part by land acquisition. Trade is also part of this model, but may have served as an ameliorating influence by slowing the economic collapse.

The different geography and climatic conditions of the vast Mayan realm eventually allowed a surplus of important produced goods. Those city-states conveniently situated in the bilingual central zone such as those in Belize, or the city-state of Tikal, produced important items such as chocolate (cacao) which will not grow well or easily in northern Yucatan. Cacao is an example of a marketable crop that was religiously, nutritionally, and monetarily (cacao served as a form of currency) valuable to virtually all peoples of Mesoamerica. Valuable tree crops (this form of agricultural production is often less subject to crop failure), such as cacao, may have prevented the early demise of city-states within the central area and coastal Belize.

Before its fall in 600 A.D., Teotihuacan was known to be intensely interested in areas of rich cacao production such as coastal Belize (Adams, 1977: 379). Teotihuacan stimulated diverse production and trade networks in the preclassic era of the lowland Maya. After the fall of Teotihuacan in about 600 A.D., these established economic systems continued throughout the classic period, and indeed may have been very instrumental in bringing about the Mayan florescence, and extending its duration. Tikal and other lowland Mayan city-states, under the early influence of Teotihuacan, became manufacturing centers for a diverse variety of cult and ceremonial objects, specialty foods, and scribe work (Adams, 1977: 380).

One example of a specialty trade product controlled by Teotihuacan itself was green obsidian, which was very highly prized by the lowland Maya. At the same time the southern Mayan centers were in the proto classic phase, some magnificent centers of the northern lowland areas such as Dzibilchultun, were already in decline as far as population growth and monumental construction.

Political Chaos, Refugees, and Foreign Influence

Mayan city-states "fell" because of political chaos. During this fall a highly educated elite segment of the population immigrated to other areas. These same elite immigrants had been in charge of specialized knowledge concerning agricultural techniques (such as land maintenance, crop development, prediction of seasonal change, and equinoxes) architectural design and construction, alignment with the gods, writing, and record keeping.

The rapid development of lowland Maya city states was no doubt facilitated by the close linguistic similarities shared by the southern and northern lowland Mayan areas. After the fall of the southern lowland Maya in the eighth century, there was a spurt of growth and development in the northern lowland Mayan areas. Hundreds of thousands of refugees, many of them members of one technical elite or another, may have fled the chaos in the southern inland lowlands, traveling to the relative peace and stability of the northern lowlands. Some influences of Teotihuacan may

have been adjunctive to the fall of the great Mayan cities of the southern lowlands. Many cultural aspects of Teotihuacan such as architecture, ceramics, and artistic styles, were carried to northern Yucatan where their remnants can still be seen today. Within the relative uniformity of the Mayan realm, the usual cultural barriers confronting refugees such as unfamiliar language, religion, diet, or customs, would have presented only minor adjustments for those refugees fleeing from the south to the north. The commonality of written language, bilinguality, and the relative uniformity of the Yucetecan climate, allowed population shifts to occur in the Mayan region for more than a millennium.

Conversation, Storytelling, and the Oral Tradition

The importance of conversation, storytelling and the oral tradition to the ancient and modern Maya is exemplified by the story of the Gods "Tepeu" and "Gucumatz," in the Popol Vuh, who created the entire world simply by holding a conversation (Whittaker and Warkentin, 1965: 13). The important Mayan word "tzicbaol" means conversation, and more specifically refers to dialogue (Burns, 1983: 20). The Modern Maya carefully listen to strangers or even other Maya's speech patterns to determine specific identity. If they hear a preponderance of certain Spanish loan words, this can signify that the speaker has had an urban life, which usually means the visitor is from Merida, Yucatan. Analogously, if the

Mayan visitor uses fewer loan words and concentrates on subjects of religiosity and commonly uses certain Mayan "holy" words, then it may be probable that the visitor is from Quintana Roo. The defiant, non-secular Maya set up an autonomous government during the caste war of the 19th century in Quintana Roo (Vanderwood, 1992: 26). The most common form of personal conversation is referred to in Mayan as *chen tzicbal* (small talk). A more formal style of speech is referred to as *cuento*. Ancient conversations or myths are spoken in *uichben tzicbal o'ob*. Monologues are referred to as *kay* (song). Drunken or playful speech or riddles are referred to as *baaxal thaan* (Burns, 1983: 21).

All place names in Yucatan are Mayan except the names for a few large cities. The modern Maya use two basic terms to describe people. *Otzi maaco'ob* refers to poor people, and *dzulo'ob* refers to rich people (Burns, 1983: 10). When Spanish is used to describe social divisions, several more categories are used. The term *Indios* is used to describe the most primitive inhabitants of the deep jungles. In villages, the word "mestizo" refers to those who wear Mayan clothing and generally speak Mayan. *Catrines* are *criollos* who speak anything but Mayan, and wear "western" clothing. A "Pocho" is a Mexican who has adopted the customs, manners, and speech of the United States (Gonzalez, 1974: 353). About eighty-five percent of all Mexicans speak Spanish compared to a sixty percent Spanish speaking segment of the population in Mexico's southern neighbor, Guatemala

Studies in Bilinguality

When I traveled and lived in Yucatan in the 1970s, small villages in municipios would choose local leaders under the strict criteria that they be completely bilingual in Mayan-Spanish. The native and fluent Mayan speakers of Mexico are often fluent in Spanish as well, especially those speakers that reside in the larger cities such as Merida and Valladolid, Yucatan. The following commentary is a brief exploration of research done on the subject of intelligence and bilingualism. Numerous studies have attempted to show whether monolingual or bilingual people differ in intelligence as measured by standard tests. Saer in 1923 reported a significant inferiority of rural bilingual children in Wales when compared with rural monolingual children on the Stanford-Binet scale (Lambert, 1972: 112). Another study showed an unfavorable effect of bilingualism in test scores where monolinguals scored better on verbal tests, and bilinguals scored better on nonverbal tests.

Conversely, S.J. Evans of Wales in 1953 maintains that a bilingual person has an intellectual advantage because his thinking is not restricted by language. There is also speculation that the intellectual benefits of bilingualism may not become apparent on standard intelligence tests (Lambert, 1972: 120). A second hypothesis is that bilinguals may have developed more flexibility in thinking. A study done in six French schools in Montreal found that bilinguals performed better than monolinguals on both verbal and nonverbal intelligence tests (Lambert, 1972: 154). Explanations as

to why bilinguals have this advantage include greater facility at concept formation, and greater mental flexibility. Bilinguals also appear to have a more diversified set of mental abilities in general.

The large, ancient Mayan city-state of Tikal in northern Guatemala, is located within the bilingual area that I have previously mentioned. Tikal was possibly the largest and longest lived of all the classic lowland Mayan city-states. Tikal was a cosmopolitan center for Mesoamerican trade, and the location for the manufacture of specialty food products, cult objects, and religious effigies. Cultures in the past and present have had specific cities or locations with religious or symbolic importance. Oftentimes these cities are multiethnic and multilingual, largely because of the diverse influence of religious pilgrims, travelers, and traders or merchants.

CHAPTER SIX
PICTORIAL EXAMPLES OF LANGUAGE, ART, AND SYMBOL

Overview of Mayan Hieroglyphic Studies
and Mesoamerican Art

For the Ancient Maya, the basic social unifying factor in the vast region of the Yucatan Peninsula, was the commonality of both written and spoken Mayan languages. The written form of Mayan existed as a diverse array of partially standardized figures. These represented everything from logographs (such as the head of a spotted cat to represent balam, the jaguar), to abstract phonetic complements and complete abstract phonetic configurations, which represent the spoken form of the same language.

I have included these paintings or pictorial examples, not only as pieces of stylized art, but also as that part of language which is archetypal regarding the symbols chosen to portray objects or ideas.

The ancient Mayan people, though unified by a common language, did have regional differences and dialects. The Mayan hieroglyphic system provided a written and precise stone age lingua franca, whose main symbols (perhaps divine) were generally understood comprehensively by all Maya throughout the diverse regions of the Yucatan peninsula.

Much has changed in the world of hieroglyphic research since I lived and studied the Mayan civilization throughout Mesoamerica during the 1970s. By the late 1970s, the Mexican government had become non-cooperative

towards all non-Mexican archaeological research in Mexico itself. Acid rain has deteriorated many exposed sculptures, glyphs, and ancient buildings. Artifact thieves have continued to steal (and in many instances destroy) numerous ancient art works which are necessary to the full reconstruction of Mayan culture, history, and language.

Many ancient Mayan sites have yet to be uncovered in what is left of the thick, steamy jungles of Mesoamerica. This fact offers much hope for adventure in a modern world which has become tame, increasingly deforested, known and mapped. Thanks to the devoted research of numerous scholars around the world, the Mayan hieroglyphs are now generally accepted as a sophisticated writing system that is both phonetic and ideographic. The Mayan languages continue to be spoken by more than two million people throughout Mesoamerica.

Concerning the Following Re-creations of Hieroglyphs

The following texts refer to my depictions and re-creations as paintings of classic Mayan sculptures, which were exhibited in the Kerr Library Gallery during spring term 1993. During the 1970s I spent part of each year for six years living and traveling in Mesoamerica. These depictions are based upon actual sculptures that were carved in limestone between 300-1000 A.D.. My depictions are based in large part upon many pencil and charcoal drawings made at numerous ancient sites. Photographs of

certain glyphs and my academic research have also contributed.

Owing to their profoundly symbolic and yet often simple nature, the glyphs offer an effortless journey into the worlds of the unconscious. The glyphs are imbued with clever style, drama, humor, horror, sensuality, nobility, and grandeur. These glyphs were originally conceived and executed in highly sophisticated jungle cultures composed of numerous city-states.

The ancient Maya could calculate and record time with remarkable accuracy, and were aware of profound geologic and cosmic cycles. The Maya developed a highly sophisticated language and writing system which was phonetic as well as ideographic. The Maya were entirely organic in their orientation, and technically bound to the stone age.

In spite of their immense organic wisdom, they could not stop the inevitable change and demise of their unique jungle cultures. After 800 years, their world all but ended in about 1000 A.D..

Numerous anthropologic, linguistic, and historical references substantiating my comments and conclusions concerning the glyphs have been included in these texts.

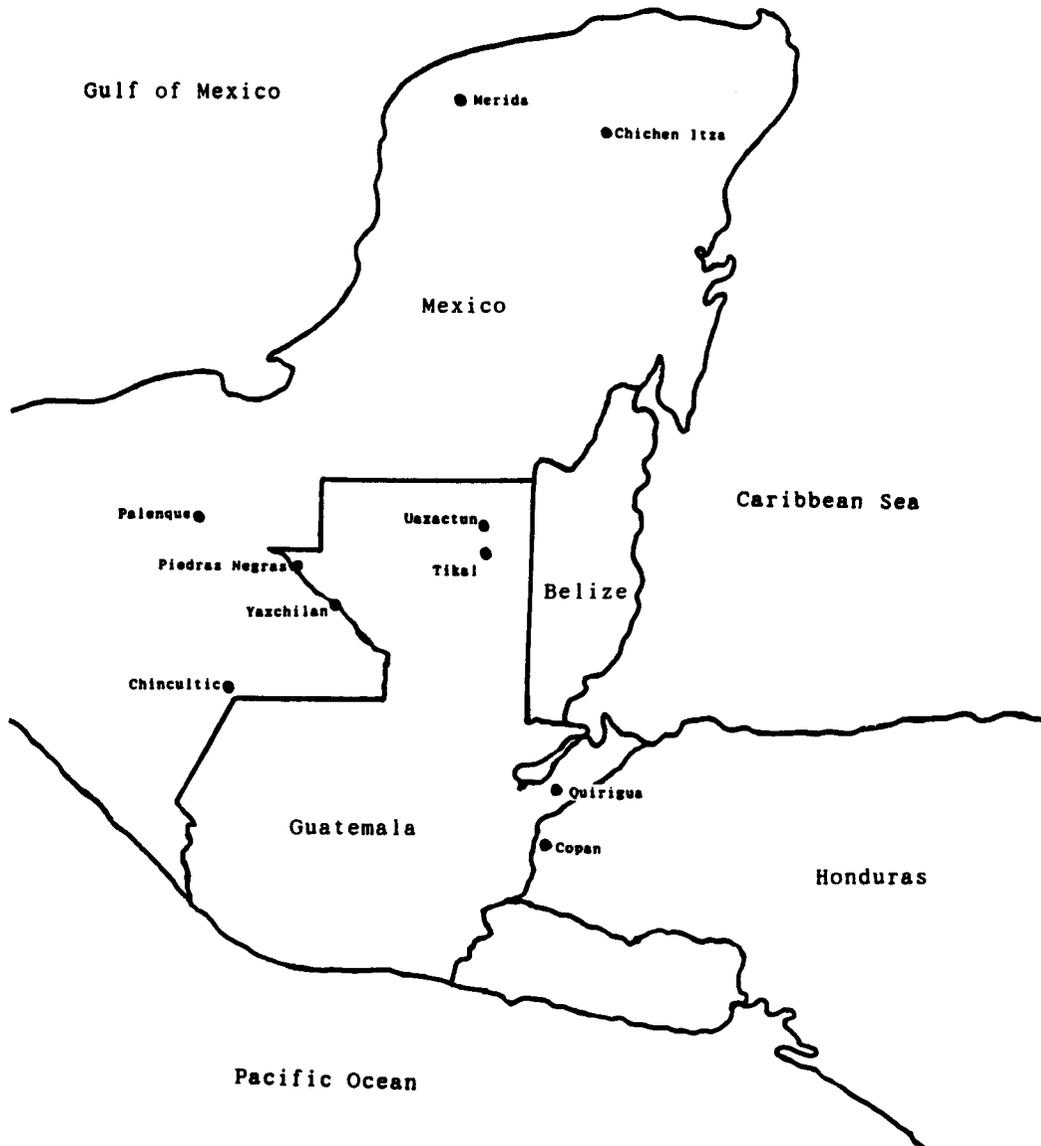


FIGURE 8
MAP OF ANCIENT SITES REFERRED TO
IN TEXTS CONCERNING THE GLYPHS

Mayan Hieroglyphs

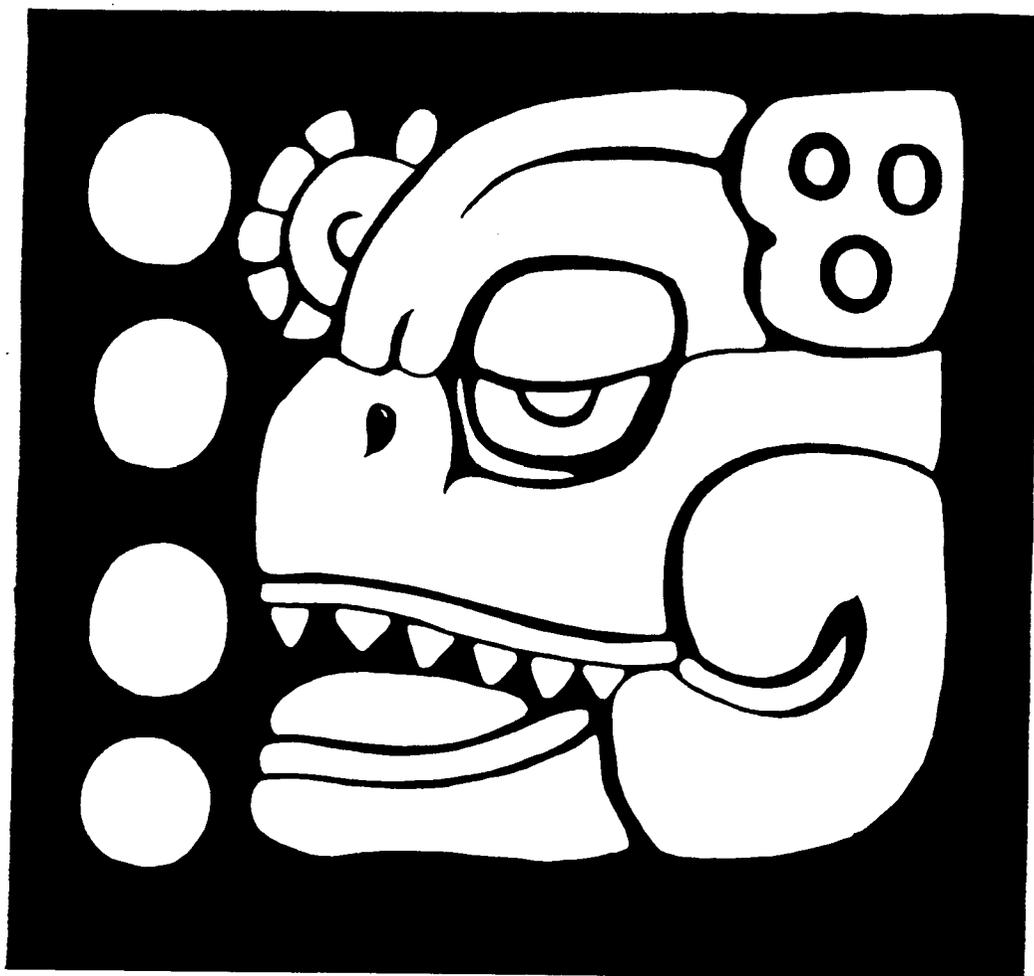


FIGURE 9
FOUR MAYAN MONTHS OR EIGHTY DAYS

Four Mayan Months or Eighty Days

The toothed frog head, representing the twenty day month period in Mayan time reckoning, is said to be the most constant zoomorphic symbol for all depictions as head variants (Portilla, 1980: 233, & Morley, 1975: 71).

This twenty day time period called uinal is associated with the moon, since the moon is visible for about twenty days in each lunation, and the Yucatecan word for moon is "u" (Thompson, 1971: 143, & Tozzer, 1977: 298). One Mayan word for frog is "uo", which is a rather close phonetic approximation for "u" or moon (Morley, 1975: 71). The period of the twenty day "uinal" was also often expressed by the use of the moon glyph (Thompson, 1971: 143, & Morley, 1975: 70).

The word in Yucatec for man is "uinic." This is also one word for the number twenty and is used in reference to man and frog, because of our ten fingers and toes comprising together twenty digits (Schele and Freidel, 1990: 81, & Thompson, 1971: 143).

Aside from the fact of a frog (probably *Rhynophrynus dorsalis* or *Bufo marinus*) having twenty digits like ourselves, it is speculated that the use of the frog or toad as a symbol for twenty is due to homophonic substitution (Thompson, 1971: 47, & Hunn, 1977: 247). Uo and po are both mayan words for frog and are onomatopoeic due to their similarity to the frog croaking sound (Thompson, 1971: 47, & Morley, 1975: 71).

Each of the large dots on the left represent one twenty day month or uinal. This particular glyph carved

in Quirigua, Guatemala, represents the sum of four Mayan months, or eighty days (Henderson, 1981: 49, & Morley, 1975: 234, 235).



FIGURE 10
SUNGOD

Sungod

The Maya sun god "Kinich Ahau," (meaning in Mayan sun-eyed, or sun-faced lord), was one form of the Mayan creation god Itzamna (Schele and Freidel, 1990: 426, & Gates, 1990: 86, 88, & 93, & Miller and Taube, 1993: 106, & Benson, 1971: 137-139). The classic sun god is easily identified by the presence of one or several kin signs (the four petaled plumeria (nichte) sun symbol), on his body or head (Thompson, 1971: 11, & Miller and Taube, 1993: 106, & Tozzer, 1977: 296 & 299). He may or may not be cross-eyed or squint-eyed (La Fay, 1975: 757). His front teeth (incisors) are often filed into a buck-toothed T-shape (Thompson, 1971: 281, 133, & Miller and Taube, 1993: 106).

In the Mayan inscriptions, Kinich Ahau serves as the head variant of the number four (kan), and patron of the month yaxkin (new or green sun) (Thompson, 1971: 133). Like the monkey scribe, the sun god can also denote the long count position of kin (next to uinal) (Coe, 1992: 72, 118, & Thompson, 1971: 142). Kinich Ahau was also associated with the normal spotted phase of the jaguar (*Felis onca*) (Miller and Taube, 1993: 106, & Morley, 1975: 72, 73).

The sun god was generally a shy god, but could become an earth god after dark, and then be associated with death, and the black jaguar (ek balam) (Thompson, 1975: 11).

Kinich Ahau was a patron of music and poetry (analogous to Apollo) (Thompson, 1971: 11). It was said that during a lovers' quarrel between the sun and the

moon (goddess of weaving and childbirth), that the moon became less bright than the sun, because the sun plucked out one of her eyes (Thompson, 1975: 11, 133).



FIGURE 11
JAGUAR

Jaguar

The ancient Maya and the jaguar (*Felis onca*), were co-rulers at the top of a divine food chain in the tropical jungles of Mesoamerica (Hunn, 1977: 222, 223). More than any other ancient people, the ancient Maya emphasized the jaguar in art, mythology, and religion. The "daytime" jaguar was strongly associated with the sun (kin) as number four (Miller, and Taube, 1993: 104). As a shape changer, the jaguars' daytime form was not entirely recognizable as a jaguar. However, his nighttime visage was the pure morphic feline form of the jaguar as lord of the night and patron of the number seven (Miller, and Taube, 1993: 104). Jaguars were said to be able to end the world by devouring the sun (Thompson, 1971: 74). The jaguar was the principal god of caves and the interior of the earth. The jaguars' spotted skin (representing stars) was a symbol of the night, and worn by royalty (Schele, and Freidel, 1990: 58 & Thompson, 1971: 74).

The underworld jaguar (ek balam or black jaguar), was probably the principal patron of the classic city of Tikal in northern Guatemala (Coe, 1992: 66, 67, & Coe W., 1975: 792-795, & Henderson, 1981: 156, & Miller, and Taube, 1993: 104, & Stuart, 1977: 52).

The jaguar (balam in Mayan) was also depicted as the water lily jaguar (Coe, 1992: 264). This water lily jaguar was patron of the first month of the Mayan year, which was known as Pop (Miller, and Taube, 1993: 104, & Tozzer, 1977: 300).

Jaguars could be associated with the leaf-nosed bat (zotz), which represented the fourth Mayan month also

referred to as zotz (Thompson, 1971: 48, 74, 108). Like the jaguar, the leaf-nosed bat was a creature of the underworld. Jaguars were occasionally domesticated and were also used in sacrificial rites.

The jaguar is known as the most aquatic of the big cats. This fact was no doubt observed by the classic Maya, and may have been incorporated into the creation of the jaguar "paddler." This jaguar paddler representation guides deities through the waters of the underworld (Xibalba). The jaguar paddler is usually depicted as an aged anthropomorphic jaguar (Miller, and Taube, 1993: 104).

Among the highland Maya of Chiapas, there is a belief that everyone has an animal counter-self. This "wayhel or chanul" is in the form of a jaguar, coyote, ocelot, owl, deer, or hummingbird, etc. The jaguar is considered to be the highest ranking counterpart. This concept exists throughout Latin America (Coe, 1993: 257).

My depiction of the stylized head of a jaguar with a nose "plume" is from a Mayan ball court in Chincultic, a small classic Mayan city in southern Chiapas, Mexico (Benson, 1971: 175, & Coe, 1993: 66). This particular jaguar head is actually representative of the fourth Mayan month, zotz. The usual zoomorphic symbol for the month of zotz is the leaf-nosed bat. In this instance, the jaguar with a nose plume was interchangeable with the leaf-nosed bat, both being archetypic symbols of the underworld, Xibalba (Thompson, 1971: 74).

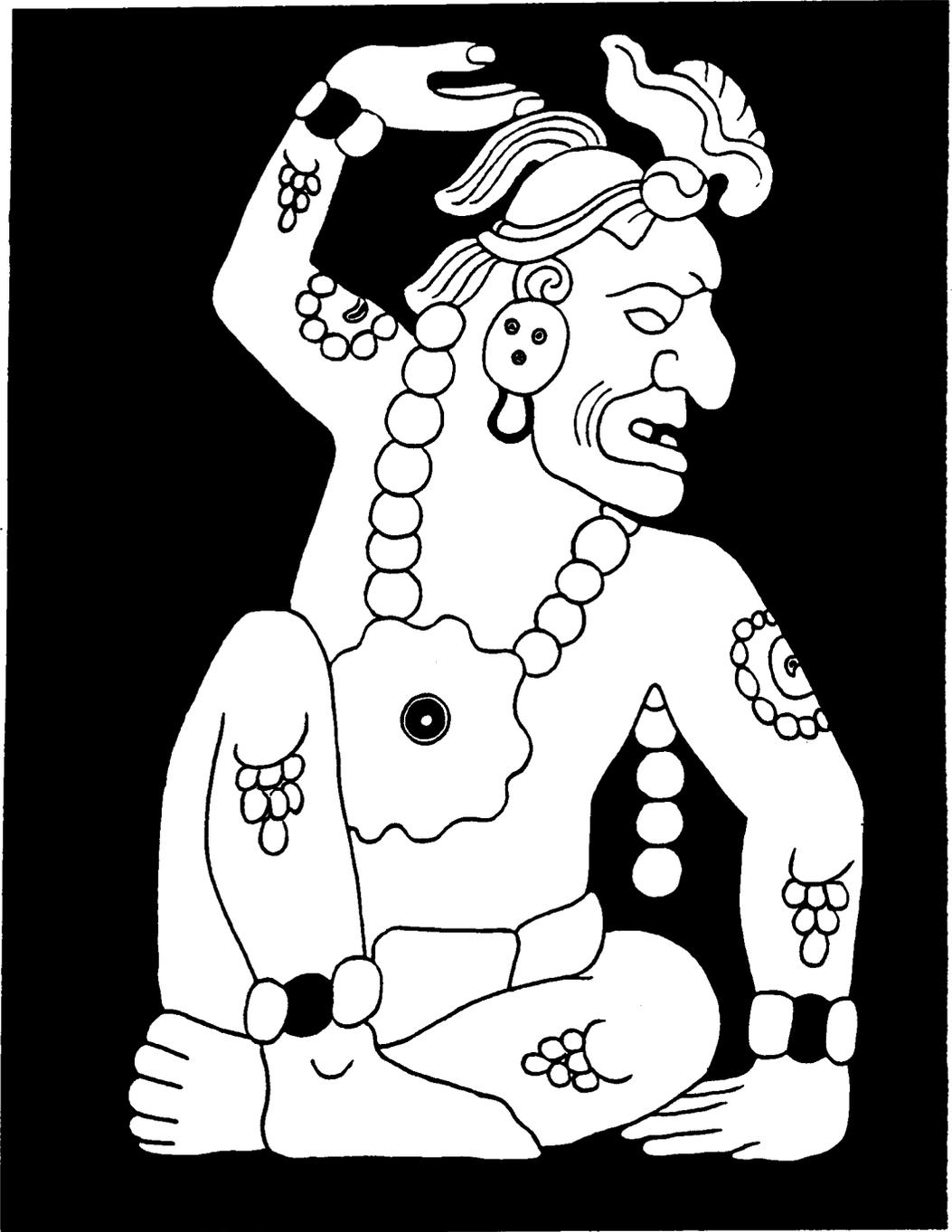


FIGURE 12
SKYBEARER

Sky Bearer

The sky bearers, or Pauatuns (paua-net and tun-stone) were important deities in Mayan mythology in that they held up the four corners of the world (Thompson, 1971: 161, & Tozzer, 1977: 299). Pauatuns were also known as scribes and artists, and personified the number five (Gates, 1990: 83, & Coe, 1987: 167).

The usual physical characteristics of N-gods or Pauatuns are snaggle or decayed teeth, wrinkled skin, and small or beady eyes. They are usually aged and often licentious and drunken (Miller, and Taube, 1993: 132). The idea of licentious drunkenness seems odd for a god that responsibly supports sky from earth, but in my opinion the phenomena of earthquakes and hurricanes may account for the drunken Pauatuns' occasional lapses into irresponsibility.

Pauatuns correspond to the four world directions and associated colors. He is often referred to as a quadripartite deity which refers to appearing as any one of four different forms (Coe, 1992: 222, & Miller, and Taube, 1993: 133, & Thompson, 1971: 161). He can be seen wearing a spider web headdress, a conch shell, or the carapace of a turtle. Pauatun is also a god of thunder sometimes called "Mam" in highland Guatemala (Miller, and Taube, 1993: 107, 133).

My painting of a Pauatun is from a low relief sculpture in Copan, Honduras (Stuart, 1977: 51). This particular Pauatun is seen holding up the sky with his right hand. He is wearing a turtle shell hat, appears to be aged and potentially cantankerous.



FIGURE 13
FIFTEEN KATUNS

Fifteen Katuns

Katun is a Mayan word representing the sum of twenty of the 360 day Mayan years. Katun literally means twenty stones (a carved stele or stone was commonly set into the ground at the end of each year to record or commemorate events), and amounts to 7,200 days. Katun is normally represented by the visage of a parrot (mo), either in the form of a head variant or a full figure glyph (Thompson, 1971: fig 27, no. 15-27). The crucial determinant of the "katun" parrot is the absence of a hand at the throat area or a hand forming the lower beak. It was common for the Maya to live beyond three katuns (sixty years), and some are known to have approached five katuns in a life span (Schele, and Freidel, 1990: 283).

In the Maya system of time reckoning [called the long count], katun occupied the fourth place in a vigesimal system based on multiples of twenty (Morley, 1975: 68, 69). Katun was twenty units of the third order or place called tun (three-hundred and sixty days) (Morley, 1975: 68). Some sources speculate that in some full figure glyphs the parrot head is actually attached to the body of an eagle (Morley, 1975: 69).

According to Mayan cycles and computations, the world as we know it will end on December 23, 2012. That day will correspond to the long count; 13 baktun, 0 katun, 0 tun, 0 uinal, and 0 kin, which is the span of time since the beginning of the Mayan calendar, whose incept date was August 13, 3114 B.C. (Coe, 1992: 275).

The "Katun Prophecy" in the Mayan book of Chilam Balam reads:

Then the sky is divided
 Then the land is raised,
 And then there begins
 The Book of the 13 Gods.
 Then occurs
 The great flooding of the Earth
 Then arises
 The great Itzam Cab Ain.
 The ending of the word,
 The fold of the Katun:
 That is a flood
 Which will be the ending of
 the word of the Katun.

(Coe, 1992: 276 & Thompson, 1971: 201).

This depiction of katun is of a low relief full figure glyph from the classic Mayan city of Copan in Honduras (Stuart, 1977: 51). The figure on the right as already mentioned is a parrot or mo, representing one Katun or 7,200 days. It is without a hand at the neck, nor is there a hand forming the lower beak.

The reclining figure on the left is a combination of two distinctive features that combine to make the number fifteen. Both features are found in the head. The first feature is the distinctive pillbox hat, with two vertical band of dots or criss- crosses. This hat feature represents the number five, or "ho" in Mayan (Tozzer, 1977: 301). The second feature has to do with the face of the reclining figure wearing the pillbox hat previously mentioned. The fact that his lower jaw is delineated and "fleshless" signifies the number ten, or "lahun" in Mayan.

This figure therefore represents the sum of five and ten which is fifteen, or holahun in Mayan (Tozzer, 1977: 301). The entire glyph represents fifteen times one katun (7,200), which amounts to 108,000 days, or 300 Mayan years.

Concerning the Following Images of Mesoamerica

Many people commonly equate Mesoamerica solely with the Aztec empire. Numerous magnificent cultures preceded and gave rise to the later Aztec empire, which collapsed in 1521. The city and culture of Teotihuacan was centered in the eastern region of the valley of Mexico in the first half of the first millennium A.D.. Teotihuacan probably surpassed the later Aztecs in influence, culture, and power.

The climate of Mesoamerica ranges from alpine mountains to dense tropical rain forest. This wide range of geography was no doubt instrumental in producing an amazing diversity of artistic styles.

The most commonly worshipped animal throughout Mesoamerica was the Jaguar (*Felis onca*). The indigenous range of the jaguar was known to coincide with the geographic borders of the Aztec empire. In ancient times this range included areas north to present day southern California in the west, and to western Tennessee in the east.

There are those such as Dr. David Kelley who speculate that ancient Mesoamerica may have been visited and influenced by people from the Orient. Specific animal or zoomorphic representations of the twenty named days in the two-hundred sixty day Mesoamerican calendar can be precisely matched to the sequence of animals in the lunar zodiacs of several Asian civilizations. Common to both Asian and Mesoamerican religions is the idea of a rabbit, rather than a man, seen as the face of the full moon.

Another interpretation of the moon shared by Asia and Mesoamerica is the conception of the moon as a feminine weaver at a loom.

Images of Mesoamerica



FIGURE 14
SMOKING MANIKIN

Smoking Manikin

This manikin figure of Kawil is comfortably seated on a human palm. This image was carved in low relief limestone in 690 A.D.. This figure is part of a panel in the Temple of the Sun in the classic Mayan city of Palenque, Mexico. Kawil was a god often associated with lineages and blood sacrifice. The Temple of the Sun was completed by Chan Balam, who succeeded to the throne of Palenque at the age of forty-eight, upon the death of his famous father, Pacal.

Kawil (or Kauli), is also referred to as God GII, God K, and in Mayan, Bolon Dzacab (Schele and Freidel, 1990: 245). The Aztec equivalent of the Mayan god Kawil was called Tezcatlipoca (Robicsek, 1978: 59). Kawil was considered to be the ruler of directions. A particular color associated with Kawil would indicate one of the four cardinal directions. Kawil would be "colored" red to designate east, black for west, white for north, and yellow for south (Reina, 1984: 61).

Kawil "wears" a smoking axe or torch on his forehead. To the classic Maya, emanated smoke represented a supernatural state, or a condition of divinity (Schele and Freidel, 1990: 78). The so-called smoking axe projecting from Kawil's forehead, may in fact be a large smoking "zicar" of tobacco. In Yucatan, Kauli was associated with crops and agriculture, and was also a title or identity sometimes borne by the God Itzamna (Thompson, 1971: 82)

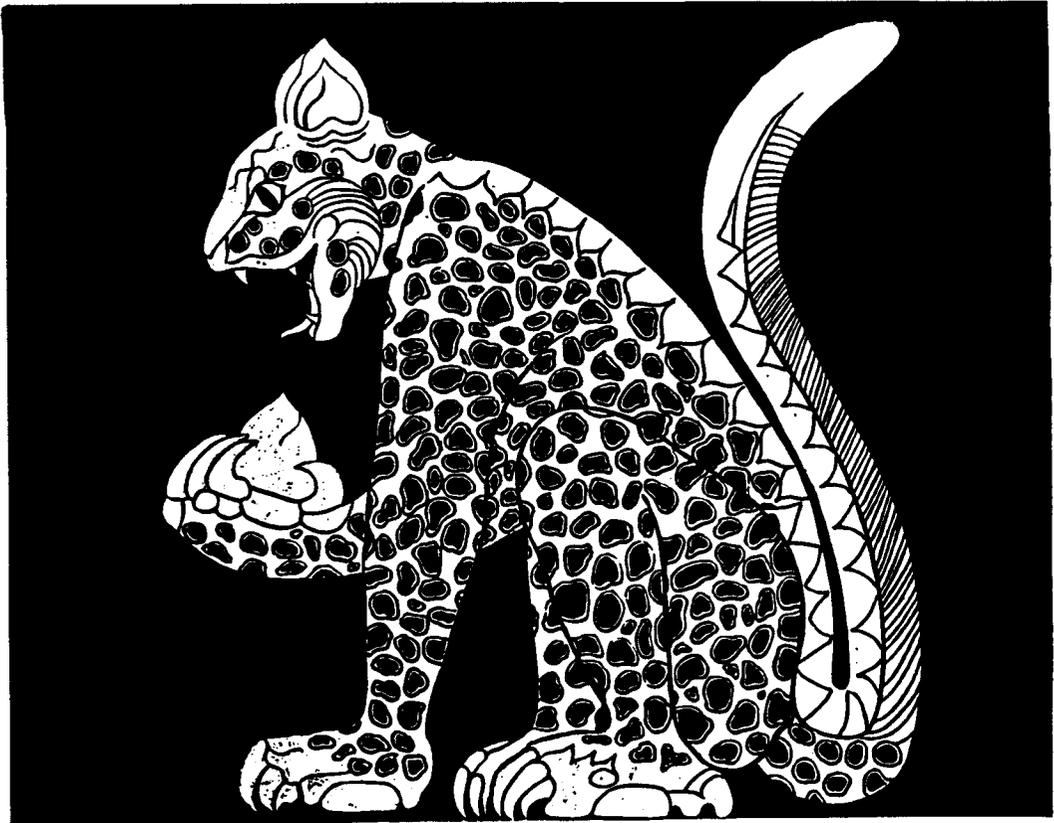


FIGURE 15
FEASTING JAGUAR

Feasting Jaguar

This stylized painting of a jaguar was inspired from a carving on a low relief limestone panel located at the ruins of Chichen Itza, Mexico. The panel from which this jaguar was taken, adorns what is referred to as the "Dance Platform of the Eagles" (Coe, 1987: 140).

This particular image of a jaguar eating a human heart is symbolic of a military distinction referred to as, "The Order of the Jaguars" or "The Jaguar Knights." One personification of both the jaguar and the "nighttime" sun, was manifested as the black jaguar (ek balam) of the night. The black jaguar sun-symbol was directly associated with the execution of sacrificial victims. It is conceivable that captive jaguars throughout ancient Mesoamerica were fed a diet of fresh human hearts.



FIGURE 16
SACRIFICIAL VICTIM AT YAXCHILAN

Sacrificial Victim at Yaxchilan

This study of a slave awaiting his own death by ritual sacrifice is part of a limestone relief carving from Yaxchilan, Mexico. Ancient Yaxchilan was a magnificent terraced classic city strategically situated in a bend on the west bank of the Usumacinta River. The Usumacinta River is now the international border between parts of Mexico and Guatemala (Coe, 1987: 100).

According to glyphic dates pertaining to this original carving, this slave was captured on June 14, 759 A.D.. In the original limestone relief panel containing this kneeling slave carving, the Mayan king of Yaxchilan "Bird Jaguar," and a nobleman called "Tilot" stand over the shocked and terrified slave. Slaves destined for ritual uses were often tortured, but kept alive for extended periods of time before being sacrificed. Other captives might be kept and pampered for months or years before being ritually sacrificed and eaten in rites of cannibalism.

The ruling "Jaguar" dynasty of Yaxchilan was originally established by Yat Balam (penis jaguar) in 320 A.D. (Gallencamp, 1976: 109). This same dynasty was to rule Yaxchilan for over five-hundred years. Shield Jaguar and Bird Jaguar, who were father-son descendants of Yat Balam, ruled and developed the kingdom of ancient Yaxchilan for over ninety years (Schele and Freidel, 1990: 263).



FIGURE 17
CLAY STAMP FROM VERACRUZ

Clay Stamp From Veracruz

This stylized image of a deer originates from an ancient flat baked clay stamp made in the Veracruz region of Mexico (Enciso, 1953: 105). The deer (mazatl) was sacred to the Aztecs, and was the zoomorphic symbol for peace and tranquility (Bordeaux, 1968: 24).

Two distinct types of deer are native to Mesoamerica. These are the white tailed deer (*Odocoileus americana*) and the brocket deer (*Mazama americana*). The brocket deer is the smaller of these two species (Olsen, 1982: 9). The region of Yucatan has commonly been referred to as "the land of deer and turkey" (von Hagen, 1961: 208).

In Mayan mythology the deer, as a stag, often assists the Moon goddess in escaping from attackers, and thereby preserving the Moon's chastity. In the twenty day month commonly used in ancient Mesoamerica, the glyph (or term for deer) refers to the seventh day name. The deer, in a two-headed form, was instrumental as mother in the Mesoamerican version of the birth of the "prince of peace" called Quetzalcoatl (Miller and Taube, 1993: 75).

The Mayan highland names for deer are ceh, or ceeh. The anthropomorphic symbol, and deer sign for the seventh day of the twenty day Mayan month is a human hand with the thumb and one finger touching (Thompson, 1971: 76).

One important ritual use of the deer may have been the employment of the deer as a culturing apparatus for growing various psychotropic mushrooms (*Psilocybe*). In precolombian times the only ruminating animal in Mesoamerica capable of culturing the spores of mushrooms was the deer (Robicsek, 1978: 57). Aztec codices were

sometimes written on deer skin, and deer skin was also used as a bundle wrapping for ritual objects by many Mesoamerican peoples (Miller and Taube, 1993: 74).



FIGURE 18
LIZARD AS A FERTILITY SYMBOL

Lizard as a Fertility Symbol

This image of a lizard (cuetzpallin in Aztec-Nahuatl) is from a flat baked clay stamp originally from ancient Veracruz, Mexico (Enciso, 1953: 69). To the ancient Aztecs and Toltecs cuetzpallin, as the lizard, was a powerful symbol of fertility (Bordeaux, 1968: 25). Part of the rationale for this determination lies in the close relationship the lizard has with the ground itself.

Clay stamps in ancient Mesoamerica were both hand-made and "machine" mass-produced. Quartz sand was often mixed with the clay prior to modeling. These baked clay stamps were often used to decorate semi-moist unbaked pottery (Enciso, 1953: 18). Dyes of many different colors were used with the clay stamps to decorate bark-paper, clay, cloth, wood, or leather. Since these clay stamps were articles of material trade in ancient Mesoamerica, it is sometimes difficult to determine the original place of creation or manufacture. Most of these clay stamps were produced in the high central plateau, the coastal gulf region of Mexico, and in the present Mexican state of Guerrero.

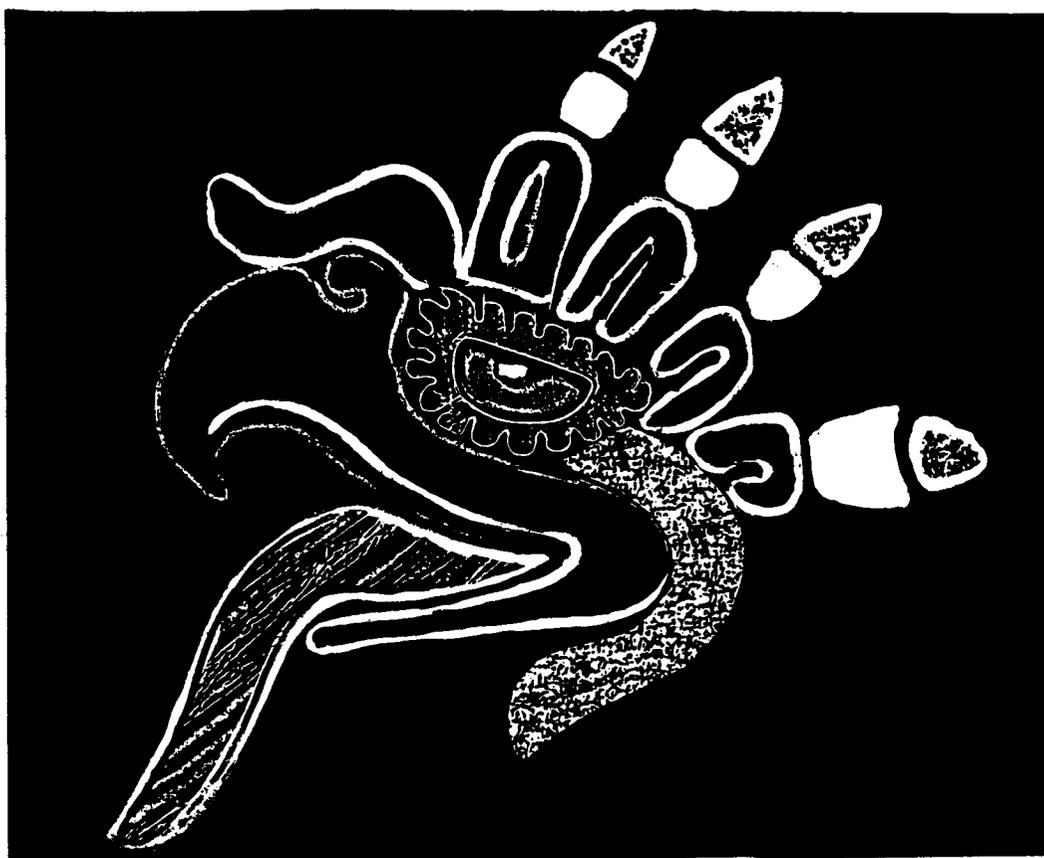


FIGURE 19
EAGLE FROM THE CODEX VATICANUS

Eagle From the Codex Vaticanus

This image of an eagle (cuatli) from the Codex Vaticanus, depicts the eagle as a symbol of nobility and opulence (Bordeaux, 1968: 75).

There are two species of eagles native to Mesoamerica, the golden eagle (*Aquila chrysaetos*), and the harpy eagle (*Harpia harpyja*). The harpy eagle was especially important in Olmec iconography. Images of the harpy eagle often appear on the Olmec jadeite spoons used to catch blood from perforated genitals in complex bloodletting rituals (Miller and Taube, 1993: 82).

Eagles were associated with rituals of human sacrifice. Human hearts were referred to as cuahnochtli, or eagle cactus fruit. Even though the harpy eagle seems to dominate over the golden eagle in Mesoamerican myths, it was the golden eagle feeding on nopal cactus, which marked the location of the founding of the Aztec capital of Tenochtitlan (Miller and Taube, 1993: 83).

The twenty year period called a "katun" in Mayan time reckoning was zoomorphically and glyphically represented by the harpy eagle. One of the two Aztec military orders dedicated to the sun was called the "Eagle Warriors". The eagle (cuatli) represents the element air, and the attribute of wisdom. Cuatli (the harpy eagle), is identified with flint.



FIGURE 20
GREAT BAT, A LORD OF ANCIENT PALENQUE

Great Bat, a Lord of Ancient Palenque

This highly stylized painting of a Mayan man is my interpretation of a portion of the low relief sculpture of Lord Chac Zutz (great bat), a king of ancient Palenque. This is the head of Lord Chac Zutz from what is called the "Tablet of the Slaves." This sculpture of Chac Zutz is dated at 730 A.D.. In the complete sculpture, Lord Chac Zutz sits with crossed legs on the backs of two slaves (Coe, 1987: 119)

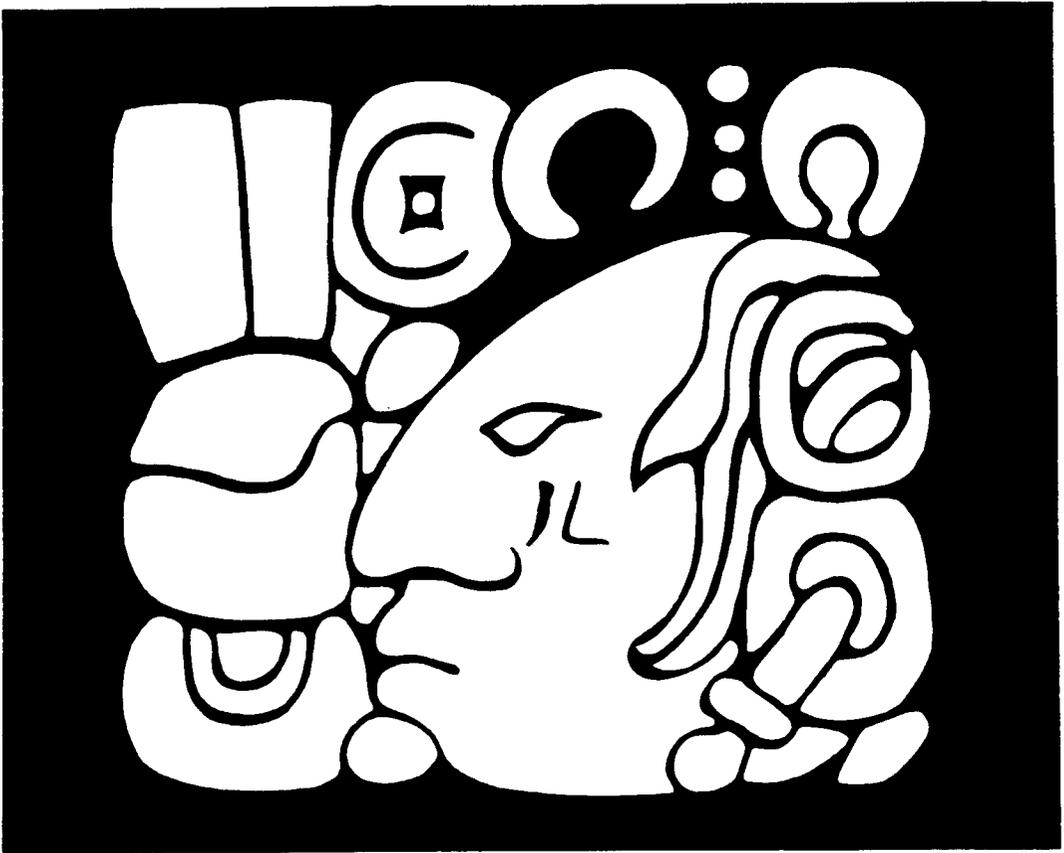


FIGURE 21
MAIZE GOD AND THE MOON

Maize God and the Moon

This painting of a classic Mayan glyph in a lunar series is based on a limestone relief hieroglyph from Quirigua, Guatemala. Quirigua is located near the ancient site of Copan in the Montagua Valley of Guatemala. In spite of the relatively small size of the ancient site of Quirigua, it is famous for its gigantic stelae and zoomorphic sculptures (Coe, 1992: 253).

The profiled head looking to the left is of the young maize god in relation to some aspect of the moon. Ordinarily the large "knot" to the left of the head profile would be the "main element" or idea of this particular hieroglyph. In this case, the head becomes the "main element," and the "knot" becomes a prefix (Thompson, 1971: 212).

Regarding glyphic affixes, those done in later Mayan times at sites such as Chichen Itza were often completely separate from the "main elements" that they modify. The "te" or classificatory prefix will usually appear to the left and above the "main element" of the glyph (Graham, 1971: 215).



FIGURE 22
GREEN SUN

Green Sun

The crouching open mouthed deity that I have depicted is a representation of the seventh Mayan month (seven of twenty in the Mayan year) called Yaxkin. Yaxkin literally means green sun, new sun, or first sun. This deity was carved from limestone in the mid classic age (400-700 A.D.) in Copan, Honduras. Yaxkin in this form was affectionately referred to as "little first sun".

Green (yax in Mayan) was the most important color to the ancient Maya, and was considered to be the center of the cardinal directions and their associated colors.

The word Yaxkin is commonly used in most Mayan languages including Yucatec, Tzeltal, and Tzotzil. The Chol dialect however, which is used in the environs around the famous ruins of Palenque in Chiapas, Mexico, employs the word "Ianguca" to identify Yaxkin.



FIGURE 23
KING OF COPAN

King of Copan

This small cross-legged figure represents an image of the most successful King in the long history of Copan, Honduras. This powerful King's name was Smoke-Imix-God K.. He ruled Copan from A.D. 628 to A.D. 695.

The seated image of Smoke-Imix-God K. was carved in 652 A.D. on a limestone stele in the city of Quirigua. This image was carved in Copan's neighboring subservient city to reinforce Copan's imperial dominance over Quirigua, and the strategically valuable Montagua river.

Under the long and powerful rulership of King Smoke-Imix-God K., Copan comprised what was perhaps the largest territory and empire of the classic Mayan world.



FIGURE 24
FOURTEEN MAYAN YEARS

Fourteen Mayan Years

This elaborate glyph was sculpted upon an altar in Quirigua, Guatemala, during the Mayan mid-classic age which was from 400 to 700 A.D.. It indicates the sum of fourteen Mayan years. The number ten (lahun) is represented by a human figure with a fleshless lower jaw. This in combination with kin or sun signs which pertain to number four, make the sum of fourteen. The number four is closely associated with the sun, and consequently the personage representing the number four will wear kin-sun symbols (four-petaled plumeria flowers) on his head, arms, or body.

The zoomorphic symbol for year or Tun (Tun meaning precious stone, jade, or year in Mayan) is designated by an imaginary creature. Aspects of the Yucatecan screech owl, lizards, and/or snakes are often incorporated. The Tun creature sometimes wears the "pillbox hat" Tun-headdress. Because of this association with serpents, Tun is often connected with water or rain.

The Aztec word for year (xiuitl) also means precious stone, namely turquoise. Turquoise like jade was also associated with rain and divinity.

The combination of fleshless lower jaw (ten or lahun), and the wearing of sun-kin symbols refers to the number fourteen when comprised in the same figure. The human figure representing fourteen is shown in close proximity (an actual embrace) with the Tun creature. Thusly, this full figure glyph represents the sum of fourteen Mayan years.

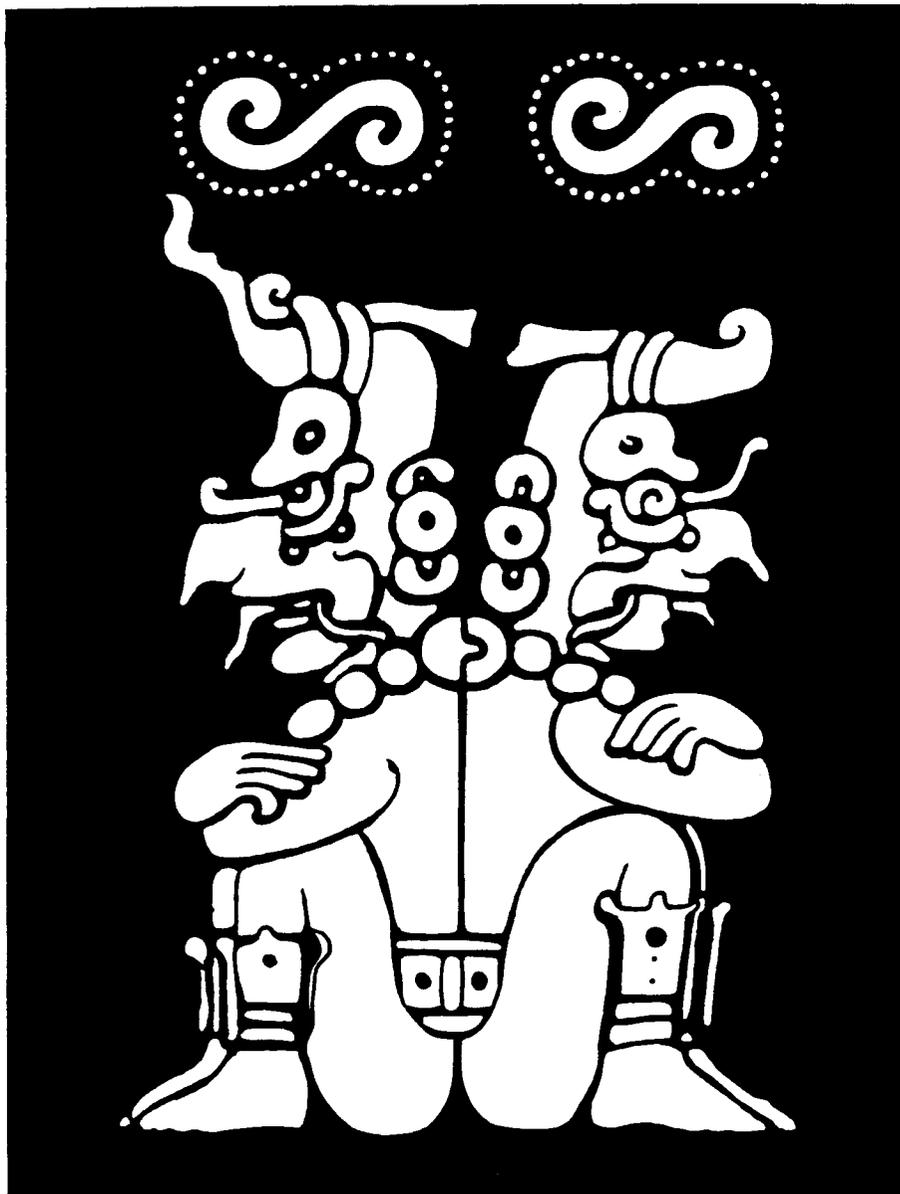


FIGURE 25
REVERSAL AT SOLSTICE

Reversal at Solstice

The reversal from the shortest day of the year (winter solstice, December 21) to progressively longer days eventually culminating in the longest day of the year (summer solstice, June 21) is represented by the back to back figures above. The specific nature of the back to back personifications indicated which solstice, equinox, or climatic change was being referred to.

The reversal from dry season to wet season was also sometimes indicated by full figure back to back personifications. The concept of reversal was also represented abstractly, by a simple supine sigma outlined with dots.

CONCLUSION

Currently there is a resurgence of respect for and interest in, the teaching of the Mayan language. Like the modern Maya, communication and language were important to their ancient counterparts. The Mayan hieroglyphic writing systems were complicated even by modern standards. These written systems offered great diversity, not only in ideographic or logographic symbols, but also in the phonetic transmission and recording of information, feelings, history, and past and future chronology.

What literary need or social structure of the ancient Maya would cause the necessity for such a specific and rational variability of the written form, extending to virtually every part of speech? This variability of Mayan hieroglyphic writing symbols manifests in what we refer to today as head variants, logographs, full figure glyphs, and zoomorphic glyphs. The diversity of these glyphic forms is the primary reason for the historic confusion surrounding the glyphs, and the difficulty of their decipherment as a written language.

Tikal, located in northern Guatemala was a principal producer and exporter of manufactured objects, including an array of specialty food products. Tikal has one of the last dated stelae, or marking stones, of all the classic lowland cities, which may qualify it as one of the longest lived Mayan city-states. Tikal is perhaps the principal example of a city-state's success or greatness, partially due, in my opinion, to bilinguality or multilinguality.

The true "gold" so aggressively sought by the conquistadors has now been found to exist in the form of

magnificent cities, temples, sculptures, and a mysterious culture that includes a written language equal in expression to Egyptian, Chinese, or Greek.

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APPENDIX

APPENDIX

Basic Rules of Mayan Pronunciation:

- Syntax or word order is usually V.O.S.
- Dominant phonetic structure of words is C.V.C.
- Emphasis is almost always on the last syllable.
- Five vowels in Yucatecan Maya, six in Cholán Maya.
 - A = a as in far or bar.
 - E = e as in prey or hey.
 - I = double ee as in free.
 - O = o as in jello or hello.
 - U = double oo as in food or zoo.
- The vowel U becomes the sound W when at the end of a word or combined with another vowel.

Examples are:

- cacau (ca caw) chocolate
- uaxac (wash ac) eight
- huipil (hwee peel) dress
- X is used for the sh sound

Examples are:

- xux (shoosh) wasp
- xoc (shock) shark
- Tz and tz' (glottalized form) are both pronounced like Z.
- Glottalized K sound is usually written with K.

An example is kab (hand):

- The unglottalized K sound is written with C.

An example is cab (earth):

- Usually each vowel in a word is pronounced as a separate syllable.
- A glottal stop between syllables is indicated by an (').
- The English phonetic sounds of the following letters do not exist: D, F, G, Q, R, S, or J (J has an H sound).

Examples:

shark	XOC	father	TATA
snake	KAN	chocolate	CACAU
island	PETEN	no	MA
water	HA	good	UTZ
sun	KIN	bad	KAZI
moon	U	little	CHAN

Common Important Words to the Maya:ANIMALS:

Dog	PEK
Duck	CUTZHA
Fish	CAI
Frog	MUUC
Iguana	HU
Jaguar	BALAM
Macaw	MO O
Monkey	MAAX
Puma	KOH
Shark	XOC
Snake	KAN
Quetzal	KUK
Tick	PECH
Turkey	CUTZ
Turtle	AK
Wasp	XOOX

FOODS:

Avocado	O ON
Banana	HAAZ
Bean	BUUL
Chocolate	CACAU
Corn	YUM KAAX
Egg	HE
Honey	KAP
Mead	BALCHE
Oranges	CHINAZ
Papaya	POOT
Sapote	YA

NATURE:

Forest	CAZ
Hills	PUUC
Island	PETEN
Moon	U or PO
Dress	HUIPIL
Night	AKAB
Resin	POM
Road	BE
Seed Plot	MILPA
Star	EK
Stone	TUN ICH
Sun	KIN
Tree	CHE
Valley	KOM
Water	HA

MISC:

Bad	KAZI
Boy	PAL
Crazy	CHOCO
Death	CIMI
Father	TATA
Good	UTZ
Head	POL
King	TAT
Little	CHAN
Let's Go	KOXH
Love	YAKUNA
No	MA
True	HOCH
Witch	XTABY