

The Cycle of 260 Days

What hath this day deserved? What hath it done,
That it in golden letters should be set
Among the high tides in the calendar?

—SHAKESPEARE, *King John*

THROUGHOUT HISTORY man has ascribed favorable or malevolent powers to certain days. At different times and in varying places, the supposed influences of days have played a not inconsiderable part in the functioning of cultures. Nowhere did those influences attain the importance with which they were invested by the peoples of Middle America. There the life of the community and the acts of the individual were rigidly adjusted to the succession of days with their varying aspects. Each day belonged to a god who took a lively interest in his duties; happy and sorrowful days succeeded each other. The day ended; the officer of the day was relieved. The one next in charge might be of a very different nature to his outgoing comrade; the mood changed as abruptly as in a T'schaikowsky symphony.

The 20 days of the Maya calendar followed one another in unbroken succession, each bringing its charge of weal or woe. The dread jaguar god of the underworld was in command one day. As his powers were malign, the life of the community was partially paralyzed for the day and night he ruled; no important activity save hunting was undertaken. That alone would be a profitable occupation, because the wild animals were in the care of the jaguar god. Children born on that day were doomed to an existence of misery and misfortune. The following day was that of the maize god. Everything changed. As the youthful god of vegetation was kindly and well disposed toward man, one could face the day with a good heart, certain of the benevolence of that friendly god. Every prospect pleased: crops sown on that day would be bountiful; children born then would be rich; they would excel in crafts and wisdom. Two days later, the god of death ruled, and evil cloaked the land; misfortunes multiplied, vexations were rife. It was a day that would have tested Job; it did not try the patience of a Maya. He took it with good grace or resignation because the source of the misfortune was known and was inevitable; his cultural heritage had taught him that it is senseless to kick against the pricks when the god who administers them is firmly in the saddle.

Life passed in this pattern of sunshine and shade was

not monotonous. It is not improbable that this strange semblance of predestination molded the Maya character, or was itself a manifestation of that character which was imbued with the insignificance of man's part in the universe. Other peoples of Middle America lived their lives under similar arrangements of shifting influences. Yet the system appears to have been less onerous among the Aztec, for example, because their days had ceased to be gods. Gods still influenced their lives, but their powers were less direct; they ruled the days which influenced life. Among the Maya the days themselves were very gods.

The most important element of the Maya calendar was the sequence of the 20 days with their attached numbers. The series of 20 names of days and the numbers 1 to 13 ran concurrently, repeating themselves in immutable sequence through all eternity.

The combination of number and day was a unit, and the one part was as meaningless without the other as a telephone number is without the name of the exchange. The Maya said "today is 13 Ahau"; they did not say "today is Ahau" or "the day 13." This very close relationship between the name and number of a day is illustrated in the Yucatecan language. For example the day 3 Imix is often written not *ox Imix*, which would mean 3 Imix, but *oxil Imix*, the termination *il* denoting a relationship with the word that follows, that is to say, "Three related to or belonging to Imix."

Although the Maya would not say "today is Ahau," they would pay attention to the fact that Ahau rules on that day, but he shared the rule with the attached number, and the luck of the day was a combination of the influences of the name and the attached number, that of the name outweighing that of the number, to judge by present-day practice in the Guatemalan highlands. Lincoln (1942, p. 106) reports that among the Ixil tallies of names and numbers are kept by separate priests who specialize in their respective counts. This statement, if correct, surely can mean no more than that the tally of the days was thus farmed out as a precaution against error, for as augural values for the numbers no longer

survive among the Ixil, a priest in charge of numbers would have as his only specialized knowledge the ability to count from 1 to 13! Lincoln's account of the calendar nowhere bears out this idea of division, and there is no confirmatory information from students of any other group which retains the day count. All informants, however, agree in the greater importance of the name. This fact presumably accounts for day numbers having been lost among the Mam of Santiago Chimaltenango, although the day names survive (Wagley, 1941, p. 17). The same is true of the very late compilations of Nah and Tekax.

Since 13 and 20 have no common factor, it is obvious that the same combination of name and number will not recur until 260 days have elapsed. At each repetition of any name the attached number will be seven greater provided the sum is not in excess of 13; if the sum is greater than 13, that number has to be subtracted from it. The first day of the cycle was 1 Imix; accordingly, 20 days later Imix will repeat, but this time with the number 8 attached. At its next appearance the attached number will be 2 ($8 + 7 = 15$; $15 - 13 = 2$), so that the sequence of numbers attached to a given day name will run 1, 8, 2, 9, 3, 10, 4, 11, 5, 12, 6, 13, 7.

Below is given a short section (65 days, the first quarter of the cycle) to illustrate the system. It will be noted how after 20 days the same Imix and the rest of the names repeat themselves, but the cycle of numbers has already completed one turn, and progressed seven spaces through the next turn. Now the number attached to Imix is 8, as explained above.

frame has a support consisting of three elements, although in a number of the earlier inscriptions this was dispensed with. A few glyphs which are not day signs appear at first glance to be within cartouches, but a closer examination will show that the frame is open at one point or another (e.g. the uinal frame open at the bottom).

There are very rare exceptions to this rule. Day signs on some of the very earliest inscriptions lack a fully developed cartouche (figs. 9,52; 10,48), and one or two at Chichen Itza, where there are distinct signs of archaisms in late inscriptions, also are without frames (figs. 7,44; 11,2,8).

In a number of early inscriptions, and some late ones at Chichen Itza, a peculiar element sometimes projects from the top of the cartouche or is placed above it (figs. 38,5,6; 42,2,4). Morley (1920, p. 69) has shown that this is a very early feature which soon disappears in the Central Area. Its survival at Chichen Itza is another example of the persistence of an archaism in that peripheral region. Except for this rare element, day signs never have affixes other than added elements such as the *ti* and "Ben-Ich" signs which modify the meaning (pp. 163, 202). Both personifications (head variants) and symbolic (geometric) variants of most day signs are known. In some cases (e.g. Imix, Ik, Kan) symbolic variants are much more numerous than head variants; in other cases (e.g. Chicchan, Cimi) the reverse is the case. There seems no reason to doubt that there existed both head and symbolic variants of all day signs, and, for that matter, probably of all glyphs, although in the

TABLE 2—SECTION OF 260-DAY CYCLE
(Read down left column and continue vertically with next to right)

1 Imix	1 Ix	1 Manik	1 Ahau	1 Ben
2 Ik	2 Men	2 Lamat	2 Imix	2 Ix
3 Akbal	3 Cib	3 Muluc	3 Ik	3 Men
4 Kan	4 Caban	4 Oc	4 Akbal	4 Cib
5 Chicchan	5 Etz'nab	5 Chuen	5 Kan	5 Caban
6 Cimi	6 Cauac	6 Eb	6 Chicchan	6 Etz'nab
7 Manik	7 Ahau	7 Ben	7 Cimi	7 Cauac
8 Lamat	8 Imix	8 Ix	8 Manik	8 Ahau
9 Muluc	9 Ik	9 Men	9 Lamat	9 Imix
10 Oc	10 Akbal	10 Cib	10 Muluc	10 Ik
11 Chuen	11 Kan	11 Caban	11 Oc	11 Akbal
12 Eb	12 Chicchan	12 Etz'nab	12 Chuen	12 Kan
13 Ben	13 Cimi	13 Cauac	13 Eb	13 Chicchan

The last (260th) day of the cycle is 13 Ahau, after which the whole almanac starts to repeat with 1 Imix.

GLYPHS FOR DAYS

In the texts of the Initial Series Period day signs are differentiated from most other glyphs by being enclosed in a frame or cartouche (figs. 6-11). Often this

case of some glyphs, both variants have not survived or have not as yet been recognized.

It is not necessary to describe the glyphs at this point. They will be discussed in reviewing the evidence as to the meanings of the day names. It should be noted that for the most part they bear little resemblance to their equivalents in the Aztec texts, although in some cases

TABLE 3—DAY NAMES IN VARIOUS MAYA LANGUAGES

Yucatec	Tzeltal or Tzotzil ⁴	Chuh S. Mateo ¹⁰	Jacalteca ²⁴	Ixil ³⁰	Quiche (1722) ³⁵	Quiche (Goubaud) ³⁶	Pokomchi ⁴⁶
Imix	Imox ⁶	Imox	Imox ²⁶	Imux ³¹	Imox	Imox	Mox
Ik	Ikh	Ic ¹¹	Ikh ²⁶	Ikh	Ikh	ikh	Ik
Akbal	Uotan	Woton ¹²	Watan	Akbal	Akbbal	Akhabal ³⁷	Acabal ⁴⁷
Kan	Khanan	Cana ¹³	Cana	Katch	Kat	Kat	Kat
Chicchan	Abakh	Abak	Abac ²⁷	Can	Can	Can	Can
Cimi	Tox ⁶	Tox	Tox	Camel	Ceme	Came ³⁸	Cime ⁴⁸
Manik	Moxic	Ceh ¹⁴	Che	Tche	Ceh	Cieh ³⁹	Kih ⁴⁹
Lamat	Lambat	Lambat	Khanil	Kanil	Khanil	Khanil ⁴⁰	Kanil
Muluc	Mulu ⁷	Mulu ¹⁶	Mulu	Tcho	Toh	Toh	Toh
Oc	Elab	Elab ¹⁶	Elac	Tchii	Tzih	Tz'i ⁴¹	Tzi
Chuen	Batz	Bats ¹⁷	Batz	Batz	Batz	Batz ⁴²	Batz ⁵⁰
Eb	Euob	Ehub ¹⁸	Euup	E	Ee	Eeh	Ih ⁵¹
Ben ¹	Been	Been ¹⁹	Ah	Ah	Ah	Ah	Ah
Ix ²	Hix	Iix ²⁰	Hix ²⁸	Ihx	Iix	Ix ⁴³	Ix
Men	Tzikin ⁸	Tzikin ²¹	Tzicin	Tzicin	Tzicin	Tzicin	Tzicin
Cib	Chabin	Chabin	Chabin ²⁹	Ahmac ³²	Ahmac	Ahmac	Ahmac ⁵²
Caban	Chic ⁹	Kixcab ²²	Noh	Noh	Noh	Noh	Noh
Etz'nab ³	Chinax	Chinax	Chinax	Tihax ³³	Tihax	Tihax	Tihax ⁵³
Cauac	Cahokh	Chavuc ²³	Cak	Cauoc	Caoc	Cauac ⁴⁴	Cahuc ⁵⁴
Ahau	Aghual	Ahau	Ahau	Hunahpu ³⁴	Hunahpu	Hunahpu ⁴⁵	Ahpu ⁵⁶

¹Also written Been.

²Hix or Hiix also used, and probably more correct, but Ix retained because of its long-established usage.

³Landa, who paid little attention to Maya spelling, has Eznab; Books of Chilam Balam generally use Etz'nab.

⁴This is the list given by Nuñez de la Vega (1702, p. 10) without any information as to provenance other than Chiapas. Presumably it is Tzeltal, but might be Tzotzil.

⁵The text has Imos in one place; Mox in another.

⁶Vicente Pineda (1888, p. 132) has Tog. He states that he corrects some of the sounds as he thought necessary, apparently to make them agree with Tzeltal words.

⁷Molo given as alternative. The Spaniards generally hesitated between *o* and *u* in translating a certain native sound.

⁸Vicente Pineda (1888) has Tzigquin.

⁹Vicente Pineda (1888) has Chigc.

¹⁰Termer (1930, pp. 385-86) gives four lists of Chuh names: that of San Mateo Ixtatan, here listed, a second from the same village collected by Gustav Kanter (here called Kanter I), one from Santa Eulalia, and another from El Quetzal. La Farge and Byers (1931, p. 224) reproduce the Kanter list in an improved form (here called Kanter II), apparently made to conform with the second list, and on p. 176 another list, presumably that of the Santa Eulalia Chuh who had migrated to Zapotal, Chiapas. Since the preparation of the above table La Farge (1947, p. 164) has published a list of day names from Santa Eulalia. This lies between the San Mateo and Jacaltenango lists, having features of both.

¹¹Ikh in El Quetzal, Kanter II, and Zapotal lists; Ek in the Santa Eulalia list.

¹²Watan in El Quetzal, Zapotal, and Santa Eulalia lists.

¹³Khana in Zapotal and Kanter II lists.

¹⁴Cheh in El Quetzal, Kanter I and II, Santa Eulalia, and El Quetzal lists; Che in Zapotal list.

¹⁵Molu in Santa Eulalia list.

¹⁶Elap in Zapotal and Kanter II lists.

¹⁷Variant forms Baatz, Batz, and Baats.

¹⁸Eu in Santa Eulalia list; Ijob in El Quetzal list; Ayu in Kanter I; Aiyup in Kanter II and Zapotal lists.

¹⁹Ben in Santa Eulalia list.

²⁰Ix in all other lists.

²¹Tsicin in Kanter II and Zapotal lists.

²²Kaah in El Quetzal list; Cuxkhap in Kanter II and Zapotal lists.

²³Cak in Santa Eulalia list; Kahk in El Quetzal list; Chauoc in Kanter II and Zapotal lists.

²⁴La Farge and Byers, 1931, pp. 167-68. Burkitt (1930-31) gives the day names of Saloma, supposedly Jacalteca-speaking. These vary a little from the La Farge and Byers list. Iac, Cheh, Elap, and Yup replace Ikh, Che, Elac, and Euup, but, more

important, Saloma follows Chuh in using Lambat, Ben, and Kixcab, although it agrees with Jacalteca and Santa Eulalia in the employment of Cak. Thus, it is very similar to the Chuh of Santa Eulalia, as is to be expected from its geographical position.

²⁵Or Imux.

²⁶Or Ik.

²⁷Or Aba or Abax, or Apac.

²⁸Or Ix.

²⁹Or Chapin.

³⁰Lincoln, 1942, pp. 107-09. Burkitt (1930-31) also gives some Ixil day names.

³¹Or Ikabal.

³²Burkitt gives Aama for Nebaj.

³³Or Kiuitz.

³⁴Or Kitix. Burkitt gives Pu for Chajul.

³⁵Quiche calendar, 1722. Ximenez, 1929-31, bk. 1, ch. 36, differs in giving Balam in place of Iix, and Hunhpu which is probably a copyist error for Hunahpu. He has Camey as in modern Quiche. The Ximenez list is a few years earlier than the calendar of 1722. Cakchiquel day names, as given in the Annals of the Cakchiquels (Brinton, 1885), agree well with the list of 1722, but have the variants of Khanel, Tzi, and Ey. The day Ix does not appear in the list.

³⁶Goubaud, 1935. Other lists from Momostenango are published in Burkitt (1930-31) and Lothrop (1930). Except for minor variations in spelling the Burkitt names are the same as those given by Goubaud, except that he gives the last day as Ahpu. Lothrop's list is also in agreement when the unusual German spelling is discounted. Another Quiche list is published by Sapper, 1925. This agrees with the others except as noted. Yet another list of Quiche days was written by Hernandez Spina (Bunting, 1932) in 1854. This is from the town of Santa Catalina Ixtlauacan, 15 km. south of Totonicapan. This, too, conforms to the pattern save that Bacbal resembles the Tzutuhil form rather than the Quiche Akhbal. Quiche day names from Santa Maria Chiquimula are published by Lincoln (1942, p. 107). These differ from the Goubaud list only in orthography and in having Camel and Cauoc for Came and Cauac.

Tzutuhil day names have been collected at San Pedro Laguna by Rosales, and a transcription was sent me by Tax. They do not differ markedly from Goubaud's Quiche list. Differences are noted in footnotes.

³⁷Santa Catalina has Bacbal; the Tzutuhil name is P'akhp'al.

³⁸The Tzutuhil day is C-he'mel; Santa Maria gives Camel.

³⁹C-heh in Tzutuhil; Cikh in Sapper.

⁴⁰Kha'nel in Tzutuhil.

⁴¹Tis in Sapper. A misprint?

(e.g. Cimi and the head variant of Imix) both subject and general treatment are the same. The resemblance to Zapotec glyphs is also very scant. Perhaps future discoveries will bring to light the 20 day glyphs of the La Venta culture, and they might well prove closer to the Maya signs.

DAY NAMES

The names given above are those which were in use in Yucatan at the time of the Spanish conquest. These are the terms which are invariably used in all discussions of the Maya calendar because they were the first Maya names of days brought to the attention of the modern world, first by Pio Perez (1843) and later by Brasseur de Bourbourg, in his edition of Landa's *Relación de las cosas de Yucatan*. I retain Etz'nab, rather than Landa's Eznab, because it is so used in the books of Chilam Balam.

Lists of day names for various groups are given in Table 3. In Spanish versions I have converted *j* to *h*, and *qu* before *e* or *i* to *c* or *k*, and *gh* to *kh*. The various transcribers of the day names have had difficulty in distinguishing between *k* simple, aspirated, or with glottal stop. The Ixil list I have altered to conform to what appear to have been the current pronunciations, for, as I remarked in the introduction to the paper in which the list was published, the author had not evolved a clear-cut system of transcription when death left his material unfinished. The Pokomchi list of Narciso also fails to differentiate between *k* simple, glottalized, and aspirated. I have tried to make these sounds conform to those of neighboring peoples so far as the glottal stop is concerned, but have not added aspirates. This is somewhat a case of the blind leading the blind since I myself have no linguistic training and a poor ear for sound.

In addition to those listed and the Cakchiquel and

Tzutuhil series referred to in the footnotes, the 20 day names are still current among two other branches of the highland Maya according to Burkitt (1930-31), who gives variant forms of sundry day names as used by the Mam and the Aguacatec, noting, however, that in all essentials these lists do not differ from those of other towns. He records Imix as the form of Imix current among the Mam, and gives Akbal as the Aguacatec form of the third day. Wagley (1941, p. 17.) gives the year bearers at the Mam village of Santiago Chimaltenango as Ik, Cheh, Ek, Noh, and also notes the days Imix and Kan.

MEANINGS OF DAY NAMES

In the lengthy and, I fear, involved discussion of the 20 days, I shall try to uncover the identity of each one, or rather of the god which each glyph represents and which its corresponding names once recalled, for we seek not animals or natural objects but divine beings. The days are alive; they are personified powers, to whom the Maya address their devotions, and their influences pervade every activity and every walk of life; they are, in truth, very gods. I believe, not without evidence, that this was not a gradual process of deification, but that the days were always held to be divine because from the very beginning each day was named after the god who ruled it; days did not represent the abstract ideas of darkness, death, and storm, but gods who were closely connected therewith or had dominion over them.

The concepts behind each day may be found by reviewing its sundry names in the various languages, particularly in Aztec, by studying its auguries, as preserved in the books of Chilam Balam and among the present-day Maya of the Guatemalan highlands, and by examining its glyphic representations.

As previous students have done, we shall make the assumption, for which there is ample support, that Maya and Mexican glyphs have the same ancestors, and that, therefore, a Maya day is probably related in meaning to the Aztec day in the corresponding position in the series. This assumption will not always hold good, for evolution and mutations in the course of a score of centuries have affected glyphs in both almanacs, but in most cases it can be demonstrated that the same idea underlies the day in both series. The Maya days are entities in an esoteric count, veiled in symbolism and mythological anecdote; the Aztec days are prosaic and largely secularized, in keeping with the Aztec tendency to call a spade a spade. Maya day glyphs are often so conventionalized that the object they represent can not be identified, and a goodly proportion of their names are meaningless, for they have been corrupted or are now obsolete; Aztec glyphs are straightforward pic-

⁴²P'atz' in Tzutuhil.

⁴³Itz in Sapper; Balam in Ximenez.

⁴⁴Ca'uok in Tzutuhil. Sapper gives Canyoc, perhaps a *u* in original manuscript misread as *n*. Santa Maria has Cauoc.

⁴⁵Ahpup' in Tzutuhil; Burkitt has Ahpu.

⁴⁶Santa Cruz Verapaz (Goubaud, Rosales, and Tax, 1947, pp. 149, 151). The Narciso list from San Cristobal (Gates, 1932a) has variations from this noted below.

⁴⁷Narciso gives Nakaua, and the second Santa Cruz list has Abalh.

⁴⁸Narciso gives Cemeh.

⁴⁹Second Santa Cruz list gives Ceh; Narciso has Cieh.

⁵⁰Narciso writes Uatz.

⁵¹Narciso gives Eh.

⁵²First Santa Cruz list is written Hamac.

⁵³This day name is omitted in the second Santa Cruz list. In place of it appears Cauom, to which the meaning "hard" is assigned.

⁵⁴Narciso has Cohoc; the second Santa Cruz list has Kohok.

⁵⁵Narciso writes this Ahpuhm; the second Santa Cruz list gives Ahpuh.

tures of such things as eagle, dog, lizard, skull, and reed, and the names correspond to the pictures—plain Jane and no nonsense. Naturally, this complete lack of subtlety in the Aztec list is of considerable help in identifying the more recondite Maya glyphs and names.

The names of the Maya days, as recorded from the sixteenth century to the present, vary from group to group, and, as just noted, they do not always lend themselves to straightforward translation. Some names are unfathomable; others have meanings which are not related to the glyphs, as, for example the day name Eb, which in Yucatec signifies stairway, although there is no allusion to this in the glyph. A possible explanation of this partial lack of correspondence might lie in borrowing of names from some non-Maya language, such as Zoque, for foreign and, in time, uncomprehended words would more readily be corrupted. It has been rather widely assumed that the cycles of 260 days was a Maya invention, and that may well be the case, but no good evidence for the assumption has ever been produced. Nevertheless, I do not deem it likely that many Maya day names are derived from foreign words; rather I should expect them to have originated from esoteric and mythological sources. In time, the meanings of some of these would be lost and garbling would result. Thus, we find Lambat used by one group, Lamat by another, Muluc in Yucatan, Mulu in the northwestern corner of Guatemala. It is a fair guess that the latter of each pair is a corruption of the former, which in turn may have changed from the archaic form of the name, and there is evidence that the process of adulterating the names still continues. La Farge and Byers (1931, pp. 163, 167) cite four variants of one day at Jacaltenango alone—Aba, Abac, Apac, and Abax—while the Chuh and Chiapas equivalents are Abak and Abakh. There can be little doubt that all six sounds derive from a single original, the process being accelerated by the loss of the original meaning (probably that of some mythological serpent).

In discussing the auguries of the days, I shall not list every one lest this chapter become a volume; I shall note only those that fit the general picture. Readers who do not approve of this subjective approach can work the slag heaps for ore I may have discarded. Such a treatment is, I think, necessary because most of the old associations have been lost, and fortuitous sonic resemblances apparently have given rise to auguries of recent invention. Such spurious accretions must be ignored. For example, the forms of the eighth day, Khanil and Kanil, current in the Guatemalan highlands probably derive from a word resembling kanal, "star" or "planet," which survives in Tzotzil as *canal* (*kānal*?). However, the present names of this day resemble local terms for ripe maize, and the

auguries are now based on that resemblance, although there is no reason to believe that the day originally had anything to do with maize. It is somewhat as though we had forgotten the origin of our name of March and, supposing that it was connected with marching, came to believe it was a month favorable for outings or was the month of marching ants.

In discussing names and auguries of the days I shall cite the sources for each group only once, since references to all days are within a page or two of one another. For instance, all material on the Ixil calendar will be found at the place, or within two or three pages of it, in Lincoln's paper first cited.

The personified glyphs are surely conventionalized portraits of the gods who ruled the days they represent; the symbolic forms supposedly picture some attribute of the god in question. Thus the glyph of the day Manik, which is a hand, presumably does not carry any direct connotation of grasping or taking or passing, but must be regarded as a once recognizable attribute of the god who ruled that day. With our deficient knowledge of the esoteric features and the symbolic values of Maya religion, we are handicapped in recognizing some of those associations; the reduction of such symbols to a few lines, forming unidentifiable designs, greatens our task.

Many writers have tried their hands at interpreting the day names, although, in most cases, with indifferent success; far and away the best discussions are by Seler (1902-23, 1:449-503) and Barrera Vasquez (1943). The latter author, in assembling and translating the various passages in the books of Chilam Balam that deal with the influences and divinatory aspects of the days, has made available a mass of vital information. The best and far the fullest of these passages is the first list in the Kaua manuscript which gives, in some detail, the aspects of the day names and the animals or deities accompanying them. The identities of the animals or beings associated with the days are powerful aids in tracing origins of day names; they give new leads and confirm past surmises.

Let us, then, follow the tracks of the marching days, scanning their footprints and other clues to their identities, and endeavoring not to stray on false trails, or be deflected where signs of passage are but faint.

Imix, Imox, Imux, Mox (fig. 6,1-17). It is quite clear that this day symbolizes the earth and, by extension, abundance. The Ixil attach the meanings of world or earth to it (Lincoln, 1942, p. 109); at Santa Eulalia, in Chaneabal territory, Imux is the holy earth (La Farge, 1947, p. 172); the Jacalteca connect Imox with weaving (La Farge and Byers, 1931, p. 165), but weaving is the special function of the moon and earth goddess (p. 83). For the Mam of Santiago Chimaltenango this is a day

most favorable for maize (Wagley, 1941, p. 34), and the same is true of Yucatan, for the Kaua I list gives maize dough, "*iximil uah*," as its symbol (Barrera Vasquez, 1943, p. 15). Schultze Jena (1946, p. 34) remarks that the Quiche of Chichicastenango connect Imox with *Mo'x*, a name for the earth god, although he believes that this association has arisen as a result of a fortuitous resemblance between the two names. In view of the Ixil and Santa Eulalia ideas, I feel that Schultze Jena must be mistaken, and that this is not a case of sonic convergence but, rather, that the two terms have a single origin, and that Imox, or some term close to it, was the old name of the earth god, surviving only in Quiche as *Mo'x*. In fact, one of the forms given for this day by Nuñez de la Vega is *Mox*, and that is the way this name appears in all Pokomchi lists.

Cipactli, the equivalent day of the Mexican plateau, also symbolizes the earth, for Cipactli is the earth crocodile, whose gnarled and spiny back forms the crust of the earth. Cipactli seems to mean "spiny creature," and the term *cipaque* yet survives in parts of Mexico to denote the crocodile or perhaps the alligator. In Mexican codices the day glyph is usually represented as the head of a crocodile with upper jaw, eye, and snout, the lower jaw being omitted; sometimes the whole body, replete with spines, is shown (Beyer, 1921b). The Zapotec name for this day also signifies crocodile (Seler, 1904, p. 38). According to Mexican belief this great crocodile, whose back was the earth, floated in a great pond. There is evidence in Maya art that the same concept obtained among the Maya.

Nuñez de la Vega (1702, p. 9) remarks that in Chiapas the worship of the day Imox "alludes to the ceiba, which is a tree which they have in all their town-plazas, in view of the town hall. Below them they elect their alcaldes, and they cense them with braziers. They hold it for very certain with regard to the roots of that ceiba that it was through them their lineage came." This last sentence must surely mean that the ancestors of the group (Tzeltal or Tzotzil) emerged from mother earth through the roots of the ceiba.

At first thought, this connection with the ceiba would appear to be in conflict with the association with the earth, and the maize it produces. Actually, the two concepts are allied because of the part played by the ceiba in Maya religion, for the ceiba was a symbol both of abundance and of mother earth.

In Yucatan there exists a belief that a giant ceiba tree, growing in the exact center of the earth, rears its branches through the successive heavens or layers of heaven to the highest. The spirits of the dead ascend by it to that highest heaven (Tozzer, 1907, p. 154). The Lacandon

believe that the sun enters the underworld each evening by climbing down the trunks of trees and through the roots (Soustelle, 1936, p. 188). The trees are not identified but, in view of the above quotations, presumably they are ceibas, called in Yucatec *yaxche*, "first tree" or "green tree" (*Ceiba pentandra* (L.) Gaertn.).

Landa states that one of the abodes of the dead was a land of milk and honey, where there was no lack of delectable food, and where the souls of the dead rested in the shade of a giant *yaxche*. This description puts one in mind of Xochitlan, "the land of flowers," one of the abodes of the Aztec dead, situated in the skies, yet the construction of Landa's next sentence suggests that this Maya paradise was not in the sky, but on or under the earth, for, after describing it, he turns to Metnal, the Maya underworld, and says that it is "lower than the former." In Chumayel (p. 44) there is mention of the *yaxcheel cab*, "the first tree of the world," which was rooted fast, and Roys (1933, p. 102) notes that the Itza of Tayasal believed that the *yaxcheel cab* was the first tree of the world, from which the first man of the world ate. This, in turn, reminds one of a legend of the Mopan Maya that after the creation man first obtained all the produce of cultivated plants by cutting down a mamey tree (Thompson, 1930, p. 135). Probably my informant, through ignorance, had substituted mamey for *yaxche*. In the account of the creation in Chumayel (p. 1) four trees, each with its appropriate directional color (red, white, black, and yellow), are set at the four sides of the world, and the context indicates that with them were placed the produce of the land, such as maize and beans. These trees are called *Imix yaxche*. It is also worth noting that in the Yucatec village of Chan Kom little girls are warned not to play with the fruits of the *yaxche* or *ch'oy* trees, as such action will cause their breasts to grow too large (Redfield and Villa, 1934, p. 207). This superstition would seem to be referable to the qualities of abundance possessed by the *yaxche*, rather than to the category of sympathetic magic, in which like produces like, for the fruit of the ceiba is not mammiform. It should also be realized that throughout the Maya area the ceiba is a holy tree.

From the above quotations we learn that the *yaxche* is the tree of abundance; that it was set up at the time of the creation, in the center of the earth or (and?) at the four sides, providing the first man with food; that it serves as a path from one celestial or terrestrial layer to another; and that it is prominent in the land of abundance, beneath the earth, where the dead repose. It is clear that such concepts are in no wise alien to those of the earth, the earth monster, and abundance of maize with which *Imix* is allied in the rituals of other Maya

groups; the concepts do not conflict, they supplement one another.

The Imix glyph is used in a noncalendrical sense in many passages in the codices and on the monuments (fig. 40). It is frequently compounded with a Kan symbol, and this dual glyph is frequently associated with offerings of food (fig. 43,46-48). Gates (1931, p. 19) notes that there are nearly 200 examples of the Kan-Imix compound in the codices, and suggests that it signifies food and drink. Kan certainly represents the ripe maize (p. 75), but, by extension, it covers food in general (cf. *uah*, "bread," used also to signify food and abundance, and our own "Give us this day our daily bread"), but I think that the discussion has shown that Imix symbolizes abundance, and the compound accordingly signifies abundance of maize or food in general, and is probably the glyphic form of the augury for Imix as given in Kaua I.

The symbolic form is usually favored in representations of the Imix glyph, but there is one personified form of the day sign at Piedras Negras (fig. 6,8), and another on Tzendales 1, although only a drawing of this exists. There are, too, several personified Imix glyphs used in a noncalendrical sense (fig. 40,1-4). All show the head of a saurian or ophidian monster with a long pendulous nose and usually without a lower jaw, or with a jawbone replacing the lower jaw, and with the Imix glyph or the flattened *u* (p. 278) as his headdress, from which vegetation usually sprouts (fig. 12,1,2,4). This deity is an actor with a large part on the stage of Maya art. Commonly water lily plants or maize vegetation emerge from his head (fig. 12,1,4,8; Tablets of Cross and Foliated Cross, Palenque, and Maudslay, 1889-1902, IV, pl. 93). His body occasionally carries celestial symbols, but that is not a serious objection to recognizing him as an aquatic god of the surface of the earth because denizens of the underworld passed to and from the sky, and were as at home in one place as the other (p. 13). Imix glyphs are associated with the two subsidiary monsters of the Tablet of the Foliated Cross, Palenque. In one case Imix is set in an eye of the monster; in the other case on the shell from which what may be the long-nosed god emerges with the maize plant growing from his hand (fig. 21,8). The shell itself is a symbol of the interior of the earth, and is worn by many deities, Aztec and Maya, connected with the earth and its interior (p. 133). This same deity sometimes has the number 7, also a symbol of the earth (p. 278; fig. 12,2), before his face.

The jawbone and other symbols of death which this earth monster usually displays denote his connection with the interior of the earth, the abode of the god of death; the vegetation, particularly maize plants and lilies (they are edible), which sprout from his body, bear witness to

the fact that he forms the surface of the earth, and is the symbol of abundance, and that he floats in a great pond, for in the Peninsula of Yucatan small lakes and backwaters are often covered with a mantle of lily pads, liberally sprinkled with white flowers. Crocodiles love such patches of water where the stream flows sluggishly or there is no current at all. I myself have journeyed through mile after mile of the upper reaches of the New River in British Honduras, where the river broadens into long wide lagoons, and there is only a narrow channel free of water lilies, along which the dugouts of the Maya glide and the launch of the Belize Estate and Produce Company chugs its noisy way. It is truly a moving sight to see the water lily pads swaying gently in one's wake.

This Imix monster, therefore, is the earth dragon, the exact counterpart of Cipactli, even, at times, to the absence of a lower jaw. He symbolizes the earth and the abundance it brings forth.

Presumably because the great earth crocodile floats in a vast pond beneath its coverlet of water lilies, that plant became a common attribute of the earth crocodile in particular, and of all terrestrial and subterrestrial gods in general. Water lilies are attached to the paws of the great crocodile which sprawls across Altar T, Copan (Maudslay, 1889-1902, I, pl. 95); water lilies grow from the head of this saurian monster (fig. 12,4,8; Spinden, 1913, fig. 79; Yde, 1938, fig. 24; Maudslay, 1889-1902, IV, pl. 93), or are attached to the jaguar, another denizen of the interior of the earth (fig. 12,12,14,15; Spinden, 1913, figs. 101, 185). On the Madrid slab (Lothrop, 1929, pl. 1a) the personage is seated on the head of the Imix monster, with the Imix glyph set in his headdress, and holds in his hand the flower and leaf of a water lily. Furthermore, water lilies may be set as pendants in the earplugs of deities, such as the god of death, who are connected with the surface or interior of the earth, or are attached to the body of a terrestrial serpent (fig. 28,15).

In view of this intimate connection of the Imix monster with the water lily, we can be reasonably certain that the symbolic form of the Imix glyph (fig. 6,1-7,9-17), with its large circle surrounded by smaller dots, and with slightly curving lines at the bottom, represents the water lily. As can be seen by comparison with the drawing (fig. 12,4), the glyph is a perfect reproduction of the somewhat stylized flower of the water lily which emerges from the head of the earth monster of House D of the Palace, Palenque. Other illustrations of water lilies, often with fish nibbling at them, are shown on the same figure. The flower of the water lily presumably was chosen as the symbolic form of Imix, partly to avoid confusion with other reptilian monsters, but, perhaps also because, owing to its food value for man, fish, and bird, it sig-

nified abundance, and at the same time kept before everyone's eyes the aquatic nature of the earth monster.

I know of only one reference to the water lily (*naab*) in Maya mythology. In the account of the creation in Tizimin, page 21, there is a passage tentatively translated by Roys and myself as "Then sprouted the red deep calyx, the white deep calyx, the black deep calyx, and the yellow deep calyx, the water lily face upward, the water lily that sways [on the surface of the water], the budding water lily."

On the recently discovered murals at Bonampak, Chiapas, several impersonators of gods of the earth, including the old god, the Mam, with the tun sign under his arm instead of on his head, and the crocodile monster, are assembled for a dance. Everyone of them is lavishly decorated with water lilies, naturalistically represented as handsome white blossoms. *Naab* is also the palm of the hand, and it is possible the lily got its name from the resemblance of a lily pad to the palm of the hand.

Imix, therefore, was the earth monster, the crocodile, whose back formed the surface of the earth; the water lily was probably his symbolic form; abundance was his aspect, and the earth his domain. It is surely not chance that the first day of the series belongs to the provident, bountiful earth, object of the deep love of all Maya, be they of the mountains or the plains, the uplands or the forest.

Ik, *Ikh* (fig. 6,18-34). Almost all sources agree that the name of this day means wind. It directly corresponds to the Aztec Eecatl, who was the wind god. The T-shaped sign, which is the only element in the glyph, is also prominent in the name glyph of Schellhas' God B (fig. 12,11). The gods of this group, however, are not primarily wind gods but deities of rain, perhaps the Itzamnas, the celestial dragons who sent the rain, but more probably the Chacs, closely allied gods of rain, thunder, and lightning.

Gates has pointed out that this glyph must be considered to be not a personal name but an appellative because it is sometimes used with other gods and sometimes occurs where God B is not pictured. *Ik* and the equivalent *Ikh* of the highlands mean not only wind but breath and by extension life itself. The name glyph then might have a meaning, such as "giver of life," which would be applied also to other gods.

The *Ik* sign itself appears to have the meaning of life. For instance on Madrid 28, which deals with the germination and growth of the maize crop, the young maize god is pictured several times. Twice he carries the kan (seed corn) sign, thrice the *Ik* sign. The latter must refer to germination or to the life-giving powers of the food in his care. The lower halves of Madrid 97 and 98 are occupied

by two divinatory almanacs of 260 days. The eight gods associated with the various subdivisions are for the most part the maize god and God B. Each one holds in his hand an *Ik* sign from which a plant, probably of maize, is growing (fig. 12,9). Here again, the *Ik* must carry the idea of germination, of coming to life. Maize plants growing from an *Ik* sign also appear on stelae (fig. 12,10).

In the Kaua divinatory list the winds are associated with *Ik*, and the tree connected with the day is the frangipani (the plumeria). The plumeria symbolizes fruitfulness, and is also found as the augural of Imix, but that day, as we have just seen, has the secondary value of abundance and fertility.

The day sign *Ik*, therefore, represents Schellhas' God B, god of rain in particular, and of life, germination, and fruitfulness in general because these are dependent on rain. Whether God B was also a god of wind is uncertain. The rains are so closely connected with the winds that it is possible that the latter, too, were once under the dominion of the God B, although in the belief of the present-day Maya of Yucatan the wind gods are separate and rather unimportant.

Akbal, *Akabal*, *Uotan*, *Watan* (fig. 6,35-50). The Ixil and Quiche associated this day with night. *Akbal* is given in western Chol as the word for night, its equivalents in Chaneabal, Tzeltal, Jacalteca, and Yocotan are *acual*, *akahbal*, *a'balil* and *ak'hup*; in Yucatec and eastern Chol it is *akab*. The equivalent Zapotec day means night; the Aztec, house. In view of these close resemblances and of Quiche and Ixil associations, there can be no doubt that these names mean night or darkness. The first Kaua list of auguries for the days gives *Yalam* as the animal of the day. *Yalam* means the young of animals in general, and a small deer in particular. In view of the relationships which will be brought out, the meaning of young animals in general fits quite well, although it is possible that *balam* (jaguar) has been miscopied.

Uotan or *Watan*, which replaces *Akbal* in the Chuh, Jacalteca, Santa Eulalia, and supposedly Tzeltal lists, is said by Nuñez de la Vega to have been the tribal ancestor who divided the land among the people. He put tapirs (mantles? *dantas* misreading of *mantas*?) and a great treasure of hieroglyphic material and jades in a dark house which he formed by blowing. This house was identified with a cave near Huehuetan, on the Pacific coast of Chiapas. *Uotan* was much venerated and in some provinces was considered to be the heart of the people (or towns). He was the lord of the hollow wooden drum, the *teponastle* or *tunkul*.

Brinton (1882b, p. 217) and Seler (1902-23, 1:458) both consider that *Uotan* means the heart, just as a deity in the Popol Vul is called "The heart of heaven." Seler

(1904-09, p. 235), furthermore, considers that he is the Maya equivalent of the Mexican god Tepeyollotl, the eighth of the nine lords of the nights, and the god of the day Calli. There seems no reason to doubt this identification.

Tepeyollotl, according to commentators of Codex Telleriano-Remensis, was the echo, and the lord of animals; his name means "heart of the mountain." In the various codices he is invariably depicted in association with a temple, which in one case has its façade shaped as the open jaws of the earth monster. He usually has features which suggest the jaguar, and his ornament is the conch shell; in some cases he is merged with Tezcatlipoca. Seler considers him to be a god of caves and of the interior of the earth who was regarded as a jaguar. He is probably a manifestation of Tecciztecatl, the earth god. The conch shell (p. 133) confirms his terrestrial origin, apparent in his name; the association with the echo suggests a connection with Uotan who was god of the wooden drum, the *teponaztle*, for deep rhythm emerging from its cavity carried for leagues. Furthermore, both gods were associated with the third of the sequence of 20 days. Night and blackness have a natural affinity with the interior of the earth.

The present-day Kekchi Maya believe in a number of earth deities, the Tzultacah (Mountain-Valley) who inhabit the interior of the earth, frequenting deep caves, and who are often worshipped in caves. When they stir they cause earthquakes. They are lords of the animals, like Tepeyollotl, and the sounds of the thunder echoing in the hills are their voices talking among themselves (Sapper, 1897, p. 272; Burkitt, 1918, p. 285). They have an association with the tapir, according to verbal information of Wirsing.

La Farge and Byers (1931, p. 222) record a Chuh prayer, addressed to "my father Day-Night . . . under the hills, under the woods, under the cliffs, under the lakes," again associating night and darkness with the interior of the earth. The Lacandon have a belief that the god of the underworld, Cisin, has a number of jaguars under his control, and eventually they will end the world by eating the sun (Cline, 1944). That the jaguar symbolized night and the underworld for the Maya is, I think, obvious from the fact that the burden of the lord of the night in the full-figure glyphs of Copan D (fig. 60) is a roll of jaguar skin. The burden of the lord of the night is, of course, the night itself, since it was during the hours of darkness that he ruled. This roll of jaguar skin is Glyph F (p. 212).

Thus in Mexico the lord of the third day was an anthropomorphized jaguar with attributes of the earth and a connection with the earth deity. His name meant

"the heart of the mountain," and the echo was associated with him, presumably because echoes generally are produced where cliffs and caves abound. He was lord of animals. The jaguar symbolized for the Mexicans both night and the earth (Beyer, 1921a, p. 43).

The third day in the Maya series is the day of darkness or night. In Chiapas and adjacent areas this is the day of Uotan, "the heart of the people," lord of the drum (with consequential connection with the echo?), who was the owner of a treasure stored in a dark house, identified with a cave. A Chuh prayer is addressed to a deity Day-Night who lives under the ground. Uotan had tapirs to guard his treasure; the Kekchi earth gods, who live under the earth and whose speech is the echoing thunder, have an unspecified association with tapirs and are the lords of the wild animals. The day Akbal is related with young animals. These tenuous connections, taken together, establish beyond much doubt a relationship between Uotan and the earth gods of the Kekchi and Chuh. On the other hand, the jaguars are closely connected with the earth in Lacandon tradition and in Maya art, for the jaguar god is often adorned with water lilies, a symbol of the earth. Furthermore, as we have noted, the jaguar's skin represents the night on Copan D.

There can be little doubt that the two groups of concepts are identical, and that the Maya god of the third day was the jaguar god of the dark interior of the earth. I think that *yalam*, given in the Kaua list as the augury of this day, may be a faulty transcription of *balam* (jaguar), although, as the gods of the earth are also guardians of the animals (Thompson, 1930, pp. 58, 142), *yalam* would also fit.

The Akbal glyph consists of looped lines around hooks above an undulating line formed of three connected curves. The upper part of the glyph is a fairly common Maya infix with animal glyphs. It is to be seen at the tops of heads representing the months Xul and Zotz' in Dresden (fig. 16,42-44,62,63) and with various representations of animals, usually dogs (fig. 42,76), on the monuments. As the head of the centipede, it is a prefix to the moon glyph when used as part of the name of God D, and on two occasions forms the headdress of deities connected with death. Zotz', the leaf-nosed bat, is a deity of the underworld, and the dog, because of its duty of conducting the dead to their last resting place in the nether regions, has a similar association. The moon also is a deity of the earth. It is, therefore, possible that this symbol represents the interior of the earth. It is noteworthy that the jaguar glyph sometimes has a shield with the Akbal glyph (fig. 46,10,12,16).

The undulating line has been explained by Beyer (1928a) as a section of the conventionalized body of a

snake, the looped lines representing the vertical scales. He considers this to be the feathered serpent, to which he attributes a nocturnal symbolism. It would seem better to regard this sign rather as a conventionalization of the ventral scales of the earth monster. Both elements, then, would represent the interior of the earth, for as the back of the terrestrial crocodile is the surface of the earth, so the under side of that monster must correspond to the interior of the earth, but the identification is highly speculative.

Kan, Cana, Kat (fig. 6,51-68). The first list of the Kaua augury supplies the key to this day, for with the second repetition of Kan is the sentence *u yumil ixim*, "the lord of the maize grain." *Kan* in Yucatec means cord and any netted cord and also yellow and, by extension, ripe. The word signifies ripe also in Kekchi (Wirsing), and the same meaning is given to *Kanaan* in Manche Chol; *kun* is yellow and *kunix* ripe in Palencano, which frequently substitutes *u* for *a*. There can be no question that the Kan sign represents grains of maize since young maize plants are frequently depicted in the codices issuing from a Kan sign, and not infrequently a young maize plant, growing from a Kan sign, forms the headdress of the maize god and other deities (figs. 13,1; 20,14; 63,3). As noted (p. 48), Kan signs frequently appear in the codices with offerings of food, and the word seems to have the extended meaning of food in general, corresponding in that respect to the English "our daily bread."

There is also a Yucatec word *kanaan*, "a thing which is precious and highly esteemed," which might also supply a connection with maize, since that was the most precious possession of the Maya. Indeed it is called "*gracia*" by the present-day Maya of Yucatan, and "holy maize" by some highland Maya groups (La Farge, 1947, p. 77; Stadelman, 1940, p. 123).

The equivalent of Kan on the Mexican plateau was Cuetzpalin, "lizard," a symbol of abundance, but at Meztitlan, on the border of the Huastec country, the day was Xilotl, "the green ear of corn." There is not the slightest doubt, therefore, that Kan is the ripe grains of maize, symbol of the young maize god.

The symbolic form of the Kan glyph is a geometric design, too conventionalized to be any longer recognizable. The only personifications of the day sign are the poorly executed example on the Uaxactun mural (fig. 6,52), and one at Chinikiha (fig. 49,4, last glyph). The latter is rather weathered, but may have been the youthful maize god. There is also a personified form of the zero-Kan compound (Copan B, A8), which shows a youthful personage who might well be the maize god (fig. 11,51).

Chicchan, Abac, Can (fig. 7,1-17). *Chicchan* is the Chorti name for an important group of ophidian deities,

who may take the form of giant snakes or of half-human, half-feathered serpents. There are four principal *Chicchans* who live in the sky at the four points of the compass. They send the rains, and thunder is the noise of one *Chicchans* shouting to another. There are also *Chicchans* living on earth, either within the mountains or in lakes and streams (Wisdom, 1940, pp. 392-97). *Chan* is the Chorti name for snake and corresponds to the Yucatec and Quiche *can*. The Ixil and the Quiche (Schultze Jena, 1946, p. 35) also give the meaning of snake to the corresponding day in their calendars; *Coatl*, the Mexican equivalent, also means snake, but the Zapotecan name for this day has a most tenuous connection with the serpent.

Seler has pointed out that the crosshatched infix, the main element of the *Chicchans* glyph in the codices, undoubtedly represents the markings of the snake. This same element is also the characteristic attribute of the *Chicchans* god, Schellhas' God H (fig. 13,17,18). The head form on the monuments might be that of some fantastic snake (fig. 7,1-3,5,6,8); the symbolic variant has two diagonal marks, which are the usual element of the *yax* affix, but that affix, in turn, is a distinguishing attribute of the *Chicchans* god, and the god of number 9, who is the same personage (figs. 13,17,18; 24,50-52,54; 25,32,34,35,46) and also is a mark found on snakes and water (figs. 13,15; 44,3,5,7). In fact, the head of God 9, the *Chicchans* god, can serve as the personified form of this *yax* prefix (pp. 45, 278). Truly, the *Chicchans*, the snake god of number 9, and the *yax* affix are closely related—partly synonymous and partly interchangeable elements.

The fifth day, therefore, without question is the day of the snake deities who send the rains.

Cimi, Tox, Came, Camel (fig. 7,18-34). Almost all sources are in agreement in connecting this day with death. The Yucatec name is beyond question from the same root as *cimil*, "to die," "death." Furthermore the augural animal of this day is the *cui* owl, which in Maya belief was a portent of death. According to the *Popol Vuh*, the lords of Xibalba, which is the underworld, were 1 *Came* and 7 *Came*, and this day name has the same root as the Quiche word for death. The Quiche still recognize its connection with death, for if the divination for a sick person falls on the day *Came*, the person will die (Schultze Jena, 1946, p. 35). Ximenez gives the meaning "Lord of hell" for this day, and the Mexican equivalent is *Miquiztli*, "death." *Tox*, the name for this day in Tzeltal, Jacalteca, and at Santa Eulalia, appears to be a name for the lord of the underworld, the god of death, for Nuñez de la Vega writes that 13 *Tox* was a demon with horns like those of a ram. Ram's horns are not aboriginal, and it is therefore probable that *Tox* acquired

them as a result of European ideas concerning the devil, for the natives had been subject to a century and a half of Christianity prior to the publication of the bishop's writings. As horns would be added only to a god of the underworld, we can be reasonably certain that 13 Tox, like 1 Came and 7 Came, was a god of the underworld, that is to say a death god, and that Tox also was a day of death.

The day glyph bears out this aspect, for the personified form is the skull of the death god; the symbolic form is the peculiar percentage sign, an attribute of the death gods (figs. 7,18-34; 13,11,14,19), but, strangely, the day is considered lucky in one respect or another by the Quiche, the Ixil, and the people of Santa Eulalia.

The name and picture of the sixth day unquestionably refer to the death god.

Manik, Moxic, Che, Ceh, Cieh (fig. 7,35-50). This is one of the most puzzling of all days. The Mexican equivalent is Mazatl, "deer," and the highland Ceh and Cieh have the same meaning, but that might be a late borrowing from Mexican intruders. The names Manik and Moxic appear to have no connection with deer; neither does the glyph, which is a hand, shown sideways with thumb and one finger touching or extended with back to the observer.

As in the cases of several of the day signs already examined the design has been shown to reproduce a characteristic attribute of the deity to whom the day was dedicated, it is virtually certain that the hand is the symbol of the god of the seventh day. Because of the association with deer in the names for this day current in the Mexican and Guatemalan highlands, one would expect this day to be that of the guardian of the deer or of animals in general. This conclusion is strengthened by the fact that the augury for this day among the Jacalteca is abundance of animals.

The hand is the characteristic of the head of the number 2 (fig. 24,8-11), a personage who appears to be the same as God Q (p. 131), but God Q (fig. 15,1-3) is almost certainly a deity of sacrifice, not a god connected with deer or with hunting. The hand is also associated with Itzamna, and, on the jaw of a deity, is the symbol for completion; in the same position it is also the identification mark of the head for the baktun (400-tun) glyph. None of these suggests any connection with deer.

In Yucatan the chief god of hunting in general and of deer in particular is Zip or Ek Zip, "the black Zip," as he is addressed in hunting prayers by the Yucatec of Chan Kom (Redfield and Villa, 1934, pp. 350-51). He is the guardian of the deer; in the Guatemalan highlands deer, and game in general, are under the protection of the gods of the mountains, that is, the earth gods.

Mixcoatl, the god of the chase on the Mexican plateau, is invariably depicted wearing black paint on his face, and we are informed that in a ceremony of the Quiche of Mazatenango, in which a live deer in a cage received offerings, the participants had their faces covered with soot (Vasquez, 1937-44, bk. 3, ch. 19). There seems, therefore, to be a fairly widespread connection between gods of the deer (and hunting in general) and black features.

In Madrid a black deity with many of the features of God B is represented 12 times (fig. 13,20-23). On three occasions he wears the head of a deer above his own; on one page his hand supports a snare in which a deer is caught; in three of the pictures he is in the act of hurling a spear; in another he has an axe in one hand, a brand in the other. Obviously he bears a close relationship to God M, since his eye is the name glyph of God M, and he has the peculiar drooping lip of God M. Furthermore, their costumes are often the same.

God M has been identified as Ek-Chuah, the black god of cacao and, by extension, of merchants, because of the fact that cacao beans were the most widespread form of currency. God M engages in sundry activities, but I think the identification with Ek-Chuah was made because 40 years ago no other black god had been reported. The tumpline almost invariably on his head and the pack or net bag which he sometimes carries have been cited in support of this identification, but these attributes might equally well be those of a hunter. In fact the netted game bag which he carries is one of the identifying attributes of Mixcoatl. Furthermore, on Dresden 13c an antler rises from his head. God M is also depicted on two or three occasions drilling with fire-sticks, and in that connection it is worth recalling that Mixcoatl was credited with the introduction of the fire-drill. There seems, therefore, little doubt that God M is primarily a god of hunting.

Not infrequently both God M and the other black god wear scorpion tails (fig. 13,23). The scorpion, also, is closely connected with hunting deer, for on Madrid 44 and 48, part of the section on trapping deer and other animals, huge scorpions rope deer (fig. 13,24). In two of the pictures the rope is held by a human hand at the point of the scorpion's tail; in the third picture the rope is grasped by a black claw. On Madrid 39 two deer are pictured one above the other. The upper deer has a scorpion tail ending in a hand. This hand holds the hilt of a dagger which is plunged into the body of the lower deer.

At the top of each of the four pages of Dresden depicting the ceremonies which close the old year and start the new there is an individual who has the head of some

animal, a human body, and a long curly tail. In his right hand he carries a staff which terminates in a human hand. The staff itself has a series of ovals set along its length. These ovals are similar to those used to form the scorpion's tail.

Seler (1902-23, 4:509) identifies the head with that of the opossum, and the naturalistic representation of the tail appears to confirm this. In the accounts of the festivals for the new year there is nothing concerning opossums. However, if the hand is the symbol of the scorpion, it is worth noting that on the Mexican plateau the scorpion was a sign of penance and in particular symbolized blood-letting. The five nameless days, with which these new-year ceremonies commence, were an occasion for fasting and confession. However, the hand also symbolizes the flint blade, which one would expect to see here, for the hand is an attribute of the god of sacrifice and of the knife with which it was performed (p. 131).

The Yucatec word for scorpion is *zinaan*, which could be a participle of *zin*, "to get ready a lasso or bow." This may explain why the scorpion catches the deer in the noose of a rope, and gives a reason for the connection between the scorpion and the gods of hunting. In the Tzeltal, Tzotzil, and Chaneabal languages scorpion is called *tzec*, a word which in Yucatec means punishment or penance. This would indicate that the association the Mexicans recognized between scorpion and penance was also prevalent in the Maya area.

The Manik glyph in that case would be the hand with which the scorpion's tail sometimes terminates. The word *Manik* has no recognizable meaning, and the same is true of *Moxic*. However, the Pio Perez dictionary gives *moch'*, the back of the hand, fingers, or the foot of a bird. This is probably a coincidence since *ch'* is not the Yucatec equivalent of *x* in any Maya language or dialect.

The animals associated with Manik in the first Kaua list are Ah Xop and Ah Yaxum. No such animal as the *Xop* is known. Barrera Vasquez suggests a derivation from *Oop* or *Xoop* given in the Pio Perez dictionary as a species of parrot, but such a derivation implies the addition of both the masculine (*ah*) and the feminine (*x*) prefixes, an arrangement which I believe never occurs. In Yucatec the masculine or the feminine prefix may be added to the name, but not both at the same time. The name is given by Pacheco Cruz as *ix oop*, "macaw."

It seems possible that the word is a corruption of *ah xob*, "the whistler," for Roys informs me that quite occasionally a final *b* in Yucatec becomes *p*. *Xob* is to whistle by putting a finger in one's mouth, and is also the call of the turkey to its young. In the hunting prayer given by Redfield and Villa (1934, p. 351) there is a request that the black Zip, the deer god, may be silenced.

In a footnote the authors explain that the Zip warns the deer of the approach of hunters by whistling through closed hands, and that this whistling is called *xob*. *Ah xob*, "the whistler," would then be a name for the deer god.

The second animal of Manik is the Ah Yaxum, which Roys has shown to be in all probability the quetzal. The associated tree is the cacao, which raises the possibility that the black god of hunting and the black god of cacao may have been related.

The evidence, such as it is, points to Manik as the day of a god of hunting, whose symbol was the scorpion. This was shown by a hand because the scorpion's tail is thus terminated in Maya art. However, the god of Manik is really the God of number 11, an earth god (p. 88), but the earth gods were gods of hunting and had the deer in their charge (p. 135).

Lamat, Lambat, Kanil, Khanil (fig. 7,51-68). The glyph for *Lamat* is the sign for the planet Venus. In head variants the Venus monster or, perhaps more correctly, the celestial dragon with Venus symbols on his body is clearly recognizable. The equivalent day on the Mexican plateau is *Tochtli*, "rabbit."

The highland forms *Kanil* and *Khanil* are perhaps corruptions of *K'anal*, the name for star in Tzotzil, Chaneabal, and Chuh. The Tzotzil-Spanish dictionary (Charney, 1885) has *Mucta canal*, "*lucero*." *Mucta* appears to mean great, "the large star."

The first Kaua list, as translated by Barrera Vasquez, gives as the augury: "Drunkard, deformed dog is his prognostic. The head of a jaguar; the rear of a dog. A meddler, a prattler, dishonest in his speech, an experimenter in mutual hatred, a sower of discord. Great." This category of unpleasant characteristics fits the description of *Lahun-Chan*, "10 Sky," the principal god of the planet Venus (fig. 14,1,2,4) who, according to Chumayel, walked abroad like one drunk, and who was ribald and insolent in his speech. He had the head of a jaguar and the body of a dog. There is excellent evidence that he is the same as 1 Ahau, and was so called because on that day the Venus cycle always ended. The whole matter is discussed in full in the review of the planet (p. 218).

The day names *Lamat* and *Lambat* have no obvious connection with Venus. *Tochtli*, "rabbit," is a symbol of drunkenness on the Mexican plateau, thereby supplying a tenuous connection with the Maya conception of Venus as a drunkard. Here, again, the Aztec have lost the religious significance of the day.

Lamat, then, is the day of the Venus god.

Muluc, Mulu, Toh, Tcho (fig. 8,1-16). The Mexican equivalent of this day is *Atl*, "water." In a recent paper (Thompson, 1944) I was able to prove that the personi-

fied form of the Muluc glyph, when used as the central element of the directional glyph, was the head of a fish. Further evidence made it virtually certain that this fish was the *xoc*, a large mythical fish identified with both the shark and the whale. At that time I had not read Barrera Vasquez' translations of the day auguries, and was not aware that the first list of Kaua gives Ah Xoc and the jaguar as the animals of this day. This, of course, is overwhelming evidence for the correctness of the identification.

The symbolic forms of the day sign have been identified by Beyer (1926) as the signs for jade. Beyer's case is a strong one, and there seems no reason to doubt its validity. As he notes, jade was the symbol for water; jade-water was a ritualistic name for rain on the Mexican plateau, and the goddess of water in that same area was "she with the jade skirt." It is interesting to note that the jade sign also forms part of the glyph of the month Mol. The connection between jade and water also holds good for the Maya area, for jade disks decorate water in some Maya pictures (fig. 14,3,5). Barrera Vasquez connects Muluc with the Tzeltal root *mul*, "sink beneath the water." Most authorities, however, would derive the word from the root *mul*, "to collect, pile up, congregate." The suggestion that this refers to water or clouds collecting is somewhat forced, yet an inverted pyramid of circles is one of the two elements that compose the cauc glyph, and that without the slightest doubt is the symbol for rain. There is also a Quiche word *mulul* with the meaning of pottery jug, which reminds one of the jugs in which the rain gods stored water.

Toh appears to be connected with water. Seler (1902-23, 1:473) notes that Brasseur de Bourbourg gives the translation "shower"; *Tohoh* is thunder or the roaring of a river, and *Tohil* or *Tohohil* was the Quiche god of thunder. Ximenez says the day signifies a shower. It may be no more than a coincidence that *ton*, which is the Yucatec equivalent of *toh* (for Quiche final aspirate shifts to *n* in Yucatec and other lowland languages) is very close to *tun*, the Yucatec word for jade.

Be that as it may, there is every evidence that the day was under the mythical *xoc* fish, and water was its sign. The symbol for jade was used to represent water. In central Mexico, at least, water was given the ritualistic title of jade because of its precious nature and because of its green and blue color, and the connection holds good for the Maya area since jade symbols are sometimes set on pictures of water in the Maya codices.

Oc, *Tzi*, *Elab*, *Elac*, *Chi* (fig. 8,17-34). The tenth day has the meaning of dog (*tzi*) in several highland lists, and the glyph itself is the head of an animal which may well be that of a dog; the equivalent day on the Mexican

plateau is Itzcuintli, "dog." Strangely, the words for dog in Yucatec (*pek*, *ah bil*, *tzul*, *bincol*) are quite different from the usual word *tz'i* or *chi* which is found in all other Maya languages and dialects except Huastec, Chontal, and Chicomucelteca. Even Manche Chol, which is so close to Yucatec, uses *tz'i*, but Becerra (1937), who does not distinguish between *c* and *k*, gives *ok* as Palencano for dog.

We have no information concerning a canine deity among the Maya, but in central Mexico the god Xolotl had the form of a dog (fig. 14,7). Xolotl is closely connected with the underworld, for according to the Mexican story of the creation he descended thither to obtain from Mictlantecutli, lord of the abode of the dead, the bone from which the human race was made (another version attributes this journey to his twin brother Quetzalcoatl). He also became the sun.

In Mexican belief the dog, sacrificed at the death of his master, conducted the deceased to Mictlan, the land of the dead. He was of particular aid in assisting his master to cross a wide stretch of water which barred his path. The same belief existed among the Maya, for the Lacandon place at each corner of a grave small dogs made of palm leaves, and these are thought to accompany the soul to its final resting place (Tozzer, 1907, p. 47), and remains of dogs were found in several tombs at Kaminaljuyu (Kidder, Jennings, Shook, 1946, p. 155). More direct evidence for this belief is supplied by the Tzeltal of Tenejapa who say that one should treat dogs well because they lead the souls of the dead to the underworld (Barbachano, 1946, p. 124), and by the people of Chenalho who believe dogs help their masters to cross the river of the land of the dead (C. Guiteras Holmes, 1946, p. 306).

Xolotl's connection with the underworld is further emphasized by symbols of death with which he is sometimes decked. As lord of the week 1 Cozcaquauhtli, he is shown in Bourbon with a knife in his mouth, a symbol of death, and he has black wavy hair which appears to be similar to that worn by the gods of death. The famed jade figure of Stuttgart portrays him with a skull and with his ribs showing (fig. 14,7).

The glyph for the dog in the Maya codices is a symbol which has been generally accepted as representing the animal's ribs, combined with a death sign (fig. 14,10). Occasionally, pictures of dogs show the ribs (fig. 14,8); more frequently the symbol of darkness is set above the eye (fig. 42,74,76). This, as noted (p. 74), probably indicates a connection with the underworld.

Seler regards Xolotl as the canine god who conducts the sun each evening to the underworld. There is strong support for this idea in the fact that Xolotl shares with Tlalchitonatuih the patronage of the week 1 Cozcaqua-

uhtli in Bourbon and Telleriano-Remensis and in the Aubin Tonalamatl; Tlalchitonatiuh is the dawn manifestation of the sun (Thompson, 1943b). It is natural that the evening manifestation of the sun should share this day. Further confirmation of this hypothesis is supplied by the Stuttgart jade. This skeletal form of Xolotl bears on its back a large sun disk, clearly symbolic of Xolotl's guidance of the sun to the underworld.

In Maya inscriptions the head of what is probably a dog, usually decorated with a pair of crossed bones, is sometimes used as a kin (day) sign in the secondary series and in the lunar series, and there is evidence for identifying this variant of the kin sign as the night sun. The crossed bones, of course, refer to the dog's connection with the underworld. The substitution of this glyph for the more usual sun glyph, particularly in its use in the lunar series, is very strong evidence for a Maya association of the dog with the sun at night when it descended to the underworld to emerge next sunrise in the east.

The dog is often depicted in the Maya codices carrying a torch, perhaps a reference to the Maya tradition that the dog brought fire to mankind (Thompson, 1930, p. 151) and the head of a dog is sometimes part of the compound glyph which represents the fire-drill (figs. 42, 76; 43,55). On the Mexican plateau, also, the dog symbolized fire (Sahagun, 1938, bk. 4, ch. 25).

Attention should also be called to the close relationship between Xolotl and Nanauatzin, the syphilitic god. The one can be substituted for the other in the series of days and weeks, and the two are confused in mythology. Indeed, there seems little reason to doubt that Nanauatzin is merely a variant of Xolotl. One of the characteristics of the dog in Mexican art is that his ears are eaten away or blood (pus as well?) pours from them. The dog is often portrayed in Maya art with ragged ears (fig. 14,9) and I think this must have reference to the syphilitic character of the god. Xolotl is usually portrayed with the same sore ears, and in Fejervary-Mayer an ear with a jagged edge generally replaces the complete head of the dog as the glyph for the day Itzcuintli (fig. 14,15a). The ear similarly replaces the complete head of the dog in the symbolic form of the glyph for Oc in the Maya codices (fig. 8,28-33). A constant feature is the presence at the base of the ear of two black spots. Is it fanciful to suppose that these symbolize syphilitic sores?

In the Kaua list and the auguries for the Quiche reported by Schultze Jena adultery is among the aspects of the day. The nature of the dog presumably gave rise to this association. The Quiche believe that persons born on this day will be habitual fornicators; La Farge (1947, p. 174) reports that "on 5 Elab our cross told him [the informant] that we had dirty thoughts."

Xolotl is really the hairless dog called *xol* in Aztec. In this connection it is worth remarking that the word for dog in the aberrant Maya language of Chicomucelo is *sul*, and *xul* is the Kekchi term for animal in general. There is a possibility of a single origin for this word, because the Aztec sound was between Spanish *u* and *o*, and is sometimes transcribed as *u*, sometimes as *o*.

The first augural list of the Kaua manuscript associates Oc with "the adorned one," *Ah zuli*, which Barrera Vasquez translates as he who lives a life of entertainment, a parrot, adulterer, one without judgment or discretion, without understanding. Can it be a corruption of *tzul*, given in the San Francisco dictionary for domestic dog?

There are two other expressions *Ah ocencab* and *Ah oczahya*. Barrera Vasquez translates the first as pining or languishing. *Oc* is the root of the word *ocol*, "to enter," and is applied to sunset, for *ocol kin* is sunset; *em* is the root of the verb *emel*, "to descend," and *emel cab* is "the sun falls, late afternoon." It seems, therefore, that *Ah ocencab* is "he who descends, and enters the earth," which is precisely the rôle of the dog.

Ah oczah ya means "He who causes to enter pain or sores." Barrera Vasquez translates this as trouble-maker, but it might well refer to the syphilitic aspect of the canine god. The sores are not metaphorical, but physical, the syphilitic sores the god sends. Elab, the Chiapan and Chuh name for this day, may refer to the dog's rôle of bringer of fire to mankind. *El* is the stem of a group of Yucatec words connected with burning (*elel*, "burn," *elzah*, "to set fire to," *elnac*, "something which is burning") and *ab* is the instrumental termination. A hasty check does not reveal this root with the same meaning in dictionaries of other Maya languages, but there seems no valid reason to assume that it is not widespread.

Oc may well be connected with the root of *ocol*, "to enter." Since this is used to describe sunset, when the sun entered the earth, a connection exists with the dog of the underworld who was closely connected with the sun during its nocturnal passage through the nether regions. The survival of *oc* or *ok* as a name for the dog in Palencano Chol is significant, checking with *tzi* of the highlands.

The tenth day, therefore, was under the patronage of the Maya equivalent of Xolotl. The name of this canine deity is unknown, but he appears to have led the sun across the underworld each night from west to east. In some way he actually represented the sun since his apparent glyph is used sometimes in Maya texts to show counts of days which had some special connection with the night (e.g. to count the age of the moon).

On the Mexican plateau Xolotl merges with the god of syphilis, and the bleeding sore ears of Xolotl and of glyphs of the day Itzcuintli are prominently displayed; in the

Maya codices, as in the Mexican Fejervary-Mayer, the ear alone usually replaces the whole head of the dog. Certain markings on these ears may represent syphilitic sores.

The three principal names for this day, Tzi, Oc, and Elab, may therefore recall respectively, dog in general, the dog as conductor to the underworld and Xolotl, his personification, and the dog as the bringer of fire to mankind; the glyph may allude in its infix, to the underworld, and in its mutilated ears to the syphilitic character of Xolotl.

Chuen, Batz (fig. 8,35-50). The eleventh day in the sequence represents the monkey god. In the Popol Vuh, 1 Chouen and 1 Batz are personages named after the day on which they were born. They were rivals of their half-brothers, the hero-gods, Hunahpu and Xbalanque. Indeed, 1 Chouen and 1 Batz were skilled in all the arts. They were great singers and orators, sculptors in high and low relief, writers of hieroglyphs, and in all respects extremely wise; they passed their time in praying and singing. Because of jealousies between the two pairs of brothers, Hunahpu and Xbalanque decided to get rid of their elder brothers. They persuaded them to climb a tree to fetch some birds, and then changed them into monkeys.

Batz' is the generic name in Maya for the howling monkey; *chuen*, which is surely the same as Chouen, has in Yucatec the meaning of craftsman, for the Motul dictionary gives *ah chuen*, "artificer, craftsman of some art." Combined with the words *kaak* (fire), *kat* and *luum* (terra cotta and earth), and *mazcab* (iron), it means respectively metal-smith, potter, and iron-smith.

This relationship of 1 Chouen and 1 Batz with the arts and crafts is reflected in the auguries for the day Chuen in the first list of days in the Kaua manuscript. As translated by Barrera Vasquez, this section reads: "Carpenter, weaver, is its augury. Masters of all arts. Very rich all their lives. All the things they may do are very good. Judicious as well."

In the Quiche list of Schultze Jena this is a good day for prayers to do with furnishings of the house. This rather suggests an association with craftsmanship. The Chichicastenago informant of Tax (1947, p. 486) says the day is good for learning, which is definitely in accord with the significance of Chouen.

Among the Aztec the equivalent day was Ozomatli, which also means monkey. The same association with the crafts holds, for Sahagun (bk. 4, ch. 22) writes: "They say that boys born on this day would be of good disposition, happy and friendly to all. They would be singers or dancers or painters or they would learn some good craft because they had been born in that sign."

In the scant information on Maya religion that has come down to us there is no mention of a monkey god

or of a god that was patron of the arts. The head of a monkey sometimes replaces that of the sun god as the kin sign (figs. 27,53,64; 29,10), indicating a connection between the two. There is good but indirect evidence that the Maya regarded the sun as a patron of singing and music (Thompson, 1939, pp. 140-41); among the Chorti the sun is also a god of knowledge and power, and patron of medicine men (Wisdom, 1940, p. 399). In central Mexico, too, the sun was the inventor and patron of music. The replacement of the sun god by the head of a monkey might therefore be due to an overlapping of functions.

Schellhas' God C (fig. 14,12), whose head is the main element of the glyph for the north, usually has the mouth of a monkey, although not when he is god of the north in Dresden, and it has been suggested that the Maya may have regarded the constellation of the Great Bear as a monkey. Be that as it may, there is what at first sight seems to be evidence for attributing a planetary or stellar rôle to God C, because his glyph occurs on three occasions on planetary bands (fig. 14,13), yet all three of these are in a special context, for they serve to divide the pictures corresponding to the ceremonies saying farewell to the old year and welcoming the new.

Another connection between the monkey and celestial phenomena is supplied by a version of the story in which the youth climbing a tree is changed into a monkey. According to this the monkey, brother of the sun, is converted into one of the planets (Thompson, 1930, p. 138).

Nevertheless, I think that Gates (1931, p. 106) is correct in seeing in the head of God C, as used as a separate glyph, an honorific title which might be applied to almost all the gods. Gates suggests some interpretation such as "Lord." In view of the associations of the monkey, it is perhaps more likely that the title should be interpreted as *Ah Men*, "the wise one" or "the one who accomplishes much," which is listed as one of the aspects of the day Chuen, or as *Ah Chuen*, "the craftsman."

The symbolic form of the glyph itself is too stylized to yield any meaning. Except for the infix at the top it is rather similar to the darkness element in the Akbal sign. This resemblance, however, may well be fortuitous. The two personified day glyphs probably represent monkeys (fig. 8,37,42).

The day Chuen, then, was the day of the god of arts and crafts who was regarded as having the form of a monkey or standing in some close relationship to the monkey.

Eb, E, Euob (fig. 8,51-68). The twelfth day of the Maya list corresponds to the Aztec Malinalli, which is given the meaning of grass, but which in some of the codices originating in southern Mexico is a jawbone with-

out any vegetation or with vegetation no more emphasized than the jawbone. In the Aztec codices the jawbone is usually replaced by a complete skull. A third feature of many representations of this day sign is the presence of an eye, often on the end of a longish kind of tenon which rises from the jawbone.

Peñafiel (1885, p. 135) says Malinalli is a grass known as "grass of the charcoal burners" because it is used for making their sacks and tumplines, and adds that it is hard, rough and fibrous. The sister of Huitzilopochtli was known as Malinalxoch, "Malinalli flower," although she was more generally called Coyolxauhqui.

On the Maya inscriptions Eb is depicted as a human head with prominent jawbone and with elements of the cauc sign inserted around the temple. In the earliest examples of this glyph the jawbone appears instead of the complete head; in the codices the jawbone is less evident, but the cauc element is more emphasized.

In the Maya glyphs the combination is rain (cauc element) and death or the underworld (jawbone); in the Mexican equivalents, grass and death. One recalls, too, that the cauc symbol also represents the haab, the tun, and that in central Mexico grass similarly stood for the year.

Rain combined with death calls to mind the Mexican tradition that the Tlalocs, who sent rain to mankind, stored it in various receptacles. One of these receptacles contained bad rain which caused mildew and cobwebs. Naturally, such rains, or rather drizzles and mists, were regarded as evil and destructive; because of them crops would fail. It would be logical to show the rain god responsible for such calamities with symbols of death.

Borgia 28 shows the five principal Tlalocs of the four world directions and the center. The Tlaloc of the west and Acatl years, who is garbed in black, pours down water sprinkled with flint knives; below, these flint knives pierce the growing corn, tearing gaps in the cobs. This scene must surely represent the harmful mists which cause smut in the corn.

In the Motul dictionary we find *akab yeeb*, "*niebla oscura*." This could mean dark mildew, smut, or dark mist, or fog, *akab* signifying dark or night. Pacheco Cruz gives *eb* as mist; the Pio Perez dictionary has *yebha*, "drizzle" (*ha* is "water"); the San Francisco dictionary lists *yeeb* for dew. The Moran vocabulary terms *yeeb* "mist," and Mr. Aulie informs me that *ye'ep* is Palenquano for the same. For Tzotzil the Charency dictionary lists *eboc*, "soot from the fire." Mildew in Central America usually takes the form of a growth of black powder, like soot, to which it would be logical to apply the term for soot.

As we have noted, the Eb glyph combines the symbols

for death and water, which would be a perfect way of writing noxious moisture, whether mist or dew. Moreover the Eb sign is set in the water which falls from the jar of the aged goddess in the scene on the last page of Dresden (fig. 14,14), and since this scene represents the destruction of the world by a deluge, the Eb sign is very appropriate. Although I think that the case is a strong one, Roys is less convinced. He writes: "I have always hesitated to associate *yeeb* with Eb, but you may well be right."

Nevertheless, I think, that the Yucatec name for this day does correspond to the glyph, and Malinalli, the Mexican equivalent day, appears to express a similar idea (vegetation ruined). E, the Quiche name, means tooth. I suppose the name has been corrupted.

The aspect of this day in Yucatan is entirely favorable. The translation given by Barrera Vasquez reads: "The tz'iu [identified by Roys as the red-eyed cowbird] of the hills is its augury. Rich, the richness is that of the community. Good rich man. His belongings are those of the community. Generous. Good man. Not parsimonious. Very good as well." Among the Quiche, according to Schultze Jena, this is a good day for prayers for prosperity and for good advice concerning misfortunes. It is strange to find such favorable aspects from a day that has such ominous associations. There are two explanations for this paradox: the original meaning of Eb may have been entirely lost when these auguries were transcribed, or some factor counterbalancing the evil effect exists, although not known to us.

On the other hand, in two of the Chuh lists reproduced by Termer the day is classified as unlucky; Malinalli, the Aztec equivalent, was also calamitous, for things would start well but would end in disaster. Sahagun (1938, bk. 4, ch. 15) writes: "They said that this sign was unlucky and to be feared like a wild beast. Those who were born under it had bad fortune. They were prosperous for some time but then all of a sudden they fell from their prosperity. Many children were born to them, but suddenly all would die one after the other. Greater was the anguish and sorrow that the death of their children caused them than was the pleasure of having had them."

Here death and calamity follow prosperity. It suggests a parallel with the rain clouds that seem to bring the rain needed for good harvests, but instead produce the mildew that destroys the young crops.

Eb, then, is the day of the malignant rain deity who sends the mists, dew, and damp weather that produces mildew in the crops.

Ben, Been, Ah (fig. 9,1-17). The thirteenth day in the Maya list corresponds to Acatl, "reed," of the Mexican plateau. Ah, the name used in the highlands of Guate-

mala, appears to stand for the green corn, and also reed or cane; both meanings are given for that day by the Quiche, with an apparent preference for reed or cane. According to Ximenez, the day represents young maize which has not ripened, and cane. The word *caña* has the general meaning of cane or reed but specifically it is sugar cane. That would, of course, be a colonial mutation since sugar cane was unknown in pre-Columbian America; the resemblance of the sugar cane to a maize plant is quite striking. An extension of meaning, staff, is supplied by Lothrop. Cane is also the significance given for the day among the Ixil; in Jacaltenango the day is assigned the meaning of reed, but it is a day favorable for prayers for the cornfields; at Santa Eulalia it is a day for maize; the Quiche regard it as very favorable for children.

According to the Kaua list the Yucatec Ben was under Ah Kauil. Roys has produced evidence that *kauil* is a word connected with the crops. It is a title borne by Itzamna. Nuñez de la Vega says that Been was a person who left his name inscribed on the upright stone which is situated in the town of Comitan.

The word Ben or Been does not appear to have any connection with plant life or a deity thereof. It is a somewhat sterile root in Yucatec, supplying only a series of words connected with the idea of going or departing.

A personification of the day sign Ben on Piedras Negras L 3 shows a young head with oval eye and the IL on the cheek, but with a rather prominent and somewhat Roman nose (fig. 9,9). There is a small circle on the forehead with a curved line through it, such as occurs in the kan sign. This type of circle is often set in the heads of deities of the soil connected with vegetation. It is very prominent on the forehead of the fantastic deity who forms the stalk of the maize plant which is the "tree" on the Tablet of the Foliated Cross, Palenque, and is generally to be discerned on the forehead of the manikin god with maize leaves growing from it.

Accordingly, it is probable that Ben represents the growing maize plant, whereas kan is the grain of ripe maize and the seed. The fact that this day is favorable for children among the Ixil and the Quiche may well be an extension of the concept of growth to the human race.

Ix, Hix, Balam (fig. 9,18-34). The fourteenth day in the Maya list corresponds to Ocelotl, "jaguar," of the Mexican plateau. The word *hix* appears to have been a Maya name for that animal, but it has survived only in Kekchi. The Quiche name Balam, given by Ximenez, means jaguar in almost all Maya languages and dialects including Quiche. According to Schultze Jena, *Ix* is a designation for the earth god, but we have already seen that the jaguar is associated with the underworld in Maya and Mexican thought. The Ixil connect the day

with the mountains and with animals. Both mountains and game are generally placed in the domain of gods of the underworld, and a similar association of animals with the jaguar god exists for Akbal (p. 73). Schultze Jena, in discussing *Ix* as a sacred name for the world divinity, adds that prayers are said on that day to the mountain gods who represent that deity, and that it is a propitious day to pray for rain, for maize of good quality, and for the general well-being of a person.

The first Kaua list, as translated by Barrera Vasquez, reads: "The fierce jaguar. Bloody his mouth; bloody his claws. A slayer as well. Devourer of flesh. Killer of men." The Mani list also gives this day as pertaining to the fierce jaguar with its bloody mouth and claws.

The glyph itself is quite stylized. Seler (1902-23, 1:487) sees in it the hairy ear and spots of the jaguar. There can, I think, be little doubt that the circles represent the spots on the jaguar's skin, and, in view of the close resemblance of the Maya glyph to the obvious ear of a jaguar used in Fejervary-Mayer to represent the equivalent day Ocelotl (fig. 14,15), Seler is almost certainly correct in his identification. There is, in any case, overwhelming evidence that this day represents the jaguar god.

Men, Tziqin, Tzicin (fig. 9,35-49). The fifteenth day of the Maya list corresponds to Quauhtli, "eagle," of the Mexican plateau, and the Zapotec Naa, "mother." The name current in Chiapas and throughout the Guatemalan highlands means bird, but the Yucatec *men* has no connection with bird or eagle. Instead, it is the root of the verb "to do" or "to make"; *Ah men* is the name current in present-day Yucatan for the prayer-makers or curers.

In central Mexico the eagle was a symbol of the sun and, more particularly, of the priests who officiated at human sacrifices in honor of the sun or as the functionary who carried the sacrificial heart or blood to the sun. Over and over again in Mexican art the eagle is represented as carrying the heart of the victim to the sun. The heart of the sacrificial victim was called "the prickly pear fruit of the sun"; the basin in which the blood of the victim was collected bore the name *quauhxicalli*, "gourd of the eagle."

The orders of warriors whose task it was to keep the sun fed with the hearts of victims were known as jaguars and eagles. Finally "Ascending eagle" and "Falling eagle" were names for the sun. Thus in Mexican belief the eagle was a name for the sun itself, and also symbolized the priest, and in some way functioned as an intermediary between man and that divinity.

In the minds of the Maya the eagle or the king vulture also symbolized the sun, for the head of one of these two birds is sometimes used to represent the day Ahau (fig.

11,8,30-32). Nevertheless, the Maya glyph for Men does not bear any marked resemblance either to an eagle or to the sun. We must follow some other clue.

The glyph for Men in the codices is a head with a prominent line of dots running back from the eye, and a mouth which is bereft of teeth save for one, sometimes two, large molars. These, however, are precisely the features usually found in the glyph which represents 20 in the codices (fig. 25,60). This in turn is a moon symbol (p. 139). Thus, we can assume that Men represents an aged deity of the moon. Maya dualism in religion is a complex affair. Deities may be dual-sexed or may be in pairs: they may be both benevolent and malign; they may be denizens of the sky yet have terrestrial or subterrestrial connections. This dualism appears to extend also to age. There is evidence for the existence of both a youthful and an aged sun god, and Seler many years ago assumed the existence of a youthful and an aged moon goddess with, I think, complete justification. This dualism in all its aspects is also a feature of the religion of the Mexican plateau.

From the appearance of the glyph the head seems to be that of the old goddess of the moon. It remains to show a connection with the eagle.

The young moon goddess in Middle America is also the mother goddess and patroness of medicine, weaving, sexual license, the soil, and the crops, and she was the first woman in the world (Thompson, 1939). The aged moon goddess presumably had parallel powers. Among the goddesses of the Mexican plateau was Ciuacoatl, also known as Tona, "our mother," Ilamatecutli, "the old princess," Quilaztli, and Cozcamiauh, "jewel ear of corn." She was an earth goddess and agricultural deity, as the song in her honor makes abundantly clear (Seler, 1902-23, 2:1048-58). The commentator of Vatican A mistakenly calls her Mixcoatl, but states that she was the inventress of weaving and embroidery, a fact amply confirmed by the weaver's sword she carries in her hand. It was said that she was the first woman in the world and the mother of the human race. She had the custom of walking among the people, and then disappearing; she would leave a cradle behind on those occasions, and when the people looked inside, they found it contained a stone knife. Her headdress, too, was decked with stone knives. She was also a goddess of war and of death, but these probably represent extensions of her functions at a late date. I think she may well be a manifestation of Toci.

Seler (1902-23, 2:1000) considers Ilamatecutli to be the old moon goddess, an identification which I believe to be correct. She is not directly connected with the moon, but exercises most of the functions of lunar deities. Throughout Middle America moon goddesses are asso-

ciated with the earth and the maize crop, and are patronesses of weaving and childbirth; they are regarded as mothers of the gods or of the human race, and are generally given a licentious character.

Ilamatecutli-Ciuacoatl is a goddess of the earth and of the maize and a patroness of weaving; she has an association with childbirth because of the cradle she carried, and because she was the goddess of twins. She was called "our mother," and a licentious character is indirectly ascribed to her, for she was believed to appear in human form and lure away young men, whom she subsequently slew. The flints in her headdress and the flint in the cradle she carried suggest a lunar connection since in Mexican codices a flint knife is frequently set in the moon sign.

The goddess was closely connected with the eagle, for she wore a headdress set with eagle feathers and carried a shield conspicuously decked with the same feathers (fig. 14,17), and her special day was 13 Quauhtli (13 Eagle). In the song of Ciuacoatl she is called "the eagle," "the eagle woman," and her throne is said to have been of eagle feathers. Accordingly, in central Mexico, the eagle is the symbol of the old moon goddess. The Zapotec name "mother" agrees with this, because in Middle America "our mother" is a usual term for the moon.

In the Maya area the fifteenth day is represented by a picture of the aged moon goddess; in central Mexico, the equivalent day is not a picture of the aged goddess, but of the eagle which is her symbol.

An aged goddess is depicted frequently in the Maya codices (Schellhas' Goddess O and the aged representation of Goddess I). She frequently wears a snake on her head, and that would suggest a name corresponding to Ciuacoatl, "Snake woman"; sometimes her hair is arranged in two diverging cones, a characteristic, too, of Ciuacoatl. This aged goddess is also pictured in several vignettes in Madrid as engaged in weaving. In the large design on Madrid 75 and 76, which shows the divisions of the universe and their guardians, this old goddess shares the center with God D. Both have the symbol of life, the Ik sign, before them. One can scarcely fail to see in this aged goddess, the deity Ixchebelyax, inventress of weaving, or Ixchel.

The glyph of this aged goddess takes four forms: (1) the head of an aged person of indeterminable sex with a red prefix (fig. 14,16c) or the head of an aged woman, characterized by the Caban curl, with the same prefix and a knotted postfix (fig. 41,41), (2) Men or its variant (Gates' Glyph 25) with the knotted prefix and the head of the aged goddess to the left (fig. 14,16d), (3) the same Men sign or variant with the same knotted prefix, but with the red prefix replacing the head of the senile

goddess (fig. 14,16a), (4) the knotted sign converted from a prefix to a main sign and with the sign for red as its prefix (fig. 14,16b). As the goddess is frequently painted red, the color prefix surely refers to that distinctive feature. The Men element can well be translated "the craftswoman"; the knotted element, I would suggest, refers to weaving. Attached to the Men glyph or Men variant, it appears above two scenes of weaving on Madrid 102d, once with the head of the aged goddess prefixed (fig. 14,16d), above a picture of her weaving, and once with the glyph of the death god prefixed, above a picture in which that god is weaving.

Barrera Vasquez gives the combined prognostications for this day as "The happy and cheerful (?) one is its augury. Masters of all the arts. Very good. (Children born under this sign) soon talk. Very holy their words." The last sentence, however, might equally well refer to the patroness of the day: "Very quick her words, very holy her words." Through an oversight there is omitted from this summary the expressions *ah sacal* and *ah men sacal* which occur in three of the four lists. *Ah zacal* is defined in the Motul dictionary as "woman who weaves," and *ah men sacal* would mean expert woman weaver or craftswoman in weaving. There is, therefore, direct mention of this aged goddess of the moon and of weaving, with whom we have identified the day, or of the group which would be under her special protection.

Ah men sacal is evidently identifiable in the glyphs of this aged goddess. The four forms of the glyph would mean "the red goddess" (no. 1), "aged lady *ah men zacal*" (no. 2), "red *ah men zacal*" (no. 3), "the red weaver" (no. 4).

I make no doubt in view of these various lines of evidence that Men was the day of the aged patroness of weaving, the aged moon goddess, who was the Maya equivalent of Mexican *Ilamatecutli-Ciuacoatl*, the "eagle woman" who gave her name to the Aztec day and who was patroness of weaving.

It is difficult to say why Tz'ikin should have become current as the name for this day in Chiapas and the Guatemalan highlands. The resemblance to the word for bird may be fortuitous, and some deeper meaning, now lost, may be concealed in the name. Alternatively, bird may refer to the eagle, although the Maya are as a rule specific when it comes to naming members of the animal kingdom.

Cib, Chabin, Ah Mac, Ah Mak (fig. 9,50-68). The sixteenth day in the Maya list corresponds to Cozcaquauhtli, "king vulture," of the Mexican highlands, but in the list given by Serna the picture is that of a metate, and Temetlatl is given as an alternative name for the day. Moreover, Caso (1946) notes that the equivalent

day in the Matlatzinca list means "day" or "sun," and in the Meztitlan list "day of god." The Kaua list connects the day with deer, and places it under the patronage of Ah Zip, the deer god; at Santa Eulalia the day is very bad, and one informant said that a child born on that day must die. The name among the Chuh signifies spider monkey.

Cib means wax; Ah Mac is said to signify sinner; Chabin survives in Hun Chabin, "1 Cib," the name of a pyramid on the outskirts of Comitán in Chiapas. This suggests that the Chaneabal name for this day was also Chabin. As the *ch* of Maya languages of Chiapas often corresponds to Yucatec *c*, the Yucatec equivalent would be *cabin*. *Cab* means bee, honey, beehive, a thick liquid, and also the earth. The first meanings suggest a connection with the Yucatec *cib*. Schultze Jena, in discussing the Quiche Ahmac, gives the usual derivation of sinner, but adds that "it would seem that the real meaning of this word is associated with an insect, which the Indians call *ahmak* [*ahmac*]. This agrees with the fact that on this day the Indians make offerings to the souls of their ancestors, and beg of them to visit their homes on a day Ahmak. The Indian visualizes the souls of the ancestors in the form of this insect which is smaller than a fly." Tax (1947, p. 486) reports that at Chichicastenango the day is that of ancestral spirits. Adding yet more to the obscurity, the head variant of the day Cib on Yaxchilan L 48 is the jaguar god of the number 7.

Notwithstanding this confusion, there are certain threads connecting some of these diverse elements. One group of bee gods of Yucatan bears the name Balam-Cab. The balam are a group of guardian deities not now associated with the jaguar, but the word *balam* does, in fact, mean jaguar. It would, therefore, be perfectly licit for a Maya to depict the god of the bees with the features of the jaguar, either as an example of rebus writing or because the Balam-Cab were once regarded as having the bodies of jaguars.

A strip across the centers of Madrid 103-106 is divided into 13 pictures of insects receiving offerings of food. Each scene is accompanied by three day signs, Cib, Caban, and Etz'nab, with sequent coefficients. The series starts with 7 Cib, 8 Caban, 9 Etz'nab, and then an addition of 17 carries to the next picture with its accompanying glyphs, 1 Cib, 2 Caban, 3 Etz'nab, and so on, until the 260 days are completed at the thirteenth picture. It can be assumed that the first day of the series, Cib, is closely connected with the insect depicted, and which most authorities identify as the bee, but which Seler (1902-23, 4:733-40) thinks is the Maya equivalent of the Tzitzimime, gods and the souls of the dead warriors and of women who have died in childbirth. Actually, the

two concepts can be reconciled, but only after the presentation of a *mélange* of facts and assumptions.

The symbolic variant of Cib is almost surely a section of a univalve shell, for the outline, save that it is upside-down, is practically the same as that of the shell variant of the kin (fig. 31, I-9), and is almost the same and in the same position as the form of the glyph for the south, which in turn is associated with the dead (fig. 41, 28, 30, 31, 34, 36). The conch shell is a symbol of the underworld and darkness (p. 133), although it has another association which we shall discuss shortly. The personified form of Cib has, as we have seen, features of the jaguar god, a deity of the underworld and of darkness.

The Aztec equivalent day is Cozcaquauhtli, "the king vulture," and the regent is Itzpapalotl, "the obsidian butterfly," who is one of the Tzitzimime, and who is provided with claws, which are sometimes like those of a jaguar. Thus we have possible associations with both the Tzitzimime and jaguars in Maya and Mexican ideas centering around this day.

In Mexican belief the Tzitzimime were certain stellar deities who had at one time been posted at the four corners of the earth, and supported with upraised arms the heavens. They were believed to fall head first to earth at certain times, notably during the darkness of eclipses, and in the course of these descents to eat men and women. They were monstrous beings who took the form of insects (Thompson, 1934, pp. 228-32), and they were also called Tzontemoc, in allusion to their habit of descending head first. On Magliabecchi 76 a Tzitzimitl (singular of Tzitzimime) is depicted as a skeleton with claws for hands and feet, and decked with such symbols of death as hands, hearts, and sacrificial banners.

With the concept of the Tzitzimime was confused that of the rôle of the souls of warriors who had died in battle and women who had died in childbirth. The author of the *Historia de los mexicanos por sus pinturas* says that Cicimime was a name for the Tezaucigua, "the fleshless women," in the second layer of heaven, who would descend to earth at the end of the world and eat all men. This is certainly a reference to the Ciuateteo, the women who had died in childbirth and who were believed to descend to earth every 52 days, to harm mankind. At those times they afflicted people, particularly children, with sundry diseases, and mothers kept their children indoors. They were propitiated with offerings, particularly of corncakes in the shape of butterflies (the Obsidian Butterfly was one of their number). Dead warriors, in the guise of hummingbirds and white butterflies, also descended to earth on certain occasions, but, at the same time, they were likewise regarded as stars (Seler, 1902-23, 3:298-304).

The Maya also had gods set at the four sides of the earth to uphold the heavens. They were the Bacabs, and to them were assigned the four directional colors: red, white, black, and yellow. They were patrons of beekeeping, according to Landa, and in the story of the creation, as given in Chumayel, wild bees were at the four sides of the earth, to each group of which a directional color was also allotted. The Bacabs are well represented in Maya art of the Mexican Period, each in the same posture, with uplifted arms, and each wearing a conch shell, or a shell probably the *planorbis*, or a turtle shell, or a spider's web (Thompson, 1934, p. 235), all of which are features identified with Mexican Tzitzimime. In addition, some of the Bacabs even appear to have wings or body markings like those of the bee, and nearly all have a special loincloth with a crisscross design which suggests the markings on the wings of bees.

Perhaps connected with this concept is the Quiche belief (Tax, 1947, p. 465) that bees had once been people. They decided when the flood came to go underground in boxes to save themselves. God did not approve of that, and converted them into bees. It is related of the Bacabs that they escaped when the world was destroyed by flood. The significance of this relationship is enhanced by the fact that flood myths are not overly important among the Maya.

We have no direct information that the Bacabs were regarded as stellar deities, but such was probably the case in view of their insignia and of the close parallels with Mexican sky bearers. On the other hand, the Maya definitely associate the dead with stars and with insects. Tax informs me that the souls of the dead are related to insects in the beliefs of the people of Panajachel, and that "there is a clear notion that when a person dies he becomes a star. The better the person, the bigger the star. There is also a notion that when a baby is born, it is one of the stars in the sky come back to earth as the soul of a person." He also cites field notes by Rosales on the Tzutuhil of San Pedro Laguna, of which the following is a translation:

They believe that in September of every year God gives license to the spirits of the dead to come to visit this world. They stay until about twenty days after All Saints' Day. In September certain large green flies begin to come out. These the natives call *ci uech' camina'k* (eyes of the dead), and they are most abundant in October. They enter and leave the houses, and frequent all the street corners, but they do not molest anyone, and for that the people of San Pedro say that they are the spirits of the dead members of their families. For that reason they do not harm them or chase them away.

At Chan Kom, Redfield tells me, the souls of the dead are believed to return to earth in the form of insects on All

Souls' Day. The idea that the dead return to earth in the form of small insects, such as flies, is found in distant Nayarit (Toscano, 1947, p. 55); it must have been widespread.

If we now assemble these tesserae, a design, albeit incomplete, appears. The Bacabs who support the heavens are patrons of beekeepers, and, to judge by their insignia and their similarities with Mexican sky bearers, they are the equivalents of the Tzitzimime, stars that change into insects, turtles, and molluscs, to fall headlong to earth on certain occasions. With these Mexican concepts are fused ideas relating to the souls of dead warriors and the souls of women who died in childbirth. These also descend to earth in the guise of insects, birds, and monstrous forms. The males are also stars; the women are much feared because in their descents they afflict mankind, and particularly children, with sickness.

For the Guatemalan highlands we have the beliefs that the souls of the dead becomes stars and also that at a certain time they return to earth as insects. Tying these sundry concepts to the day under discussion is the Quiche belief recorded by Schultze Jena that the souls of the dead return on this very day in the form of an insect, and that Ahmac, the Quiche name for the day, means "flying insect," according to an aged informant. The evil character of the day, and the belief in Santa Eulalia that a child born on this day will die remind us of the Mexican belief that the descent of the Ciuateteo to earth was fraught with peril for all mankind, but particularly for children. Finally, we have the Yucatecan association of the souls of the dead with unspecified insects.

As we have seen, the symbolic form of Cib on the monuments in all probability represents a shell, and that calls to mind the shell insigne worn by some of the Bacabs; the personified glyph has features of the jaguar, a symbol of darkness, and it was under screen of darkness that the Tzitzimime descended. The belief that Cib is connected with the Maya equivalents of the Tzitzimime is greatedened when we note that the corresponding Mexican day, Cozcaquauhtli, was under the rule of Itzpapalotl, "the obsidian butterfly," who is stated to have been one of the Tzitzimime. Cozcaquauhtli, the king vulture, was a symbol of death, of eating of entrails, an idea not too remote from the concept of the Ciuateteo with their emblems of death.

The case is not proved, but it is a fair assumption that Cib was the day of the Bacabs, patrons of beekeeping, who, converted into diverse creatures, merge with the earth-bound souls of the dead in insect form.

Caban, Kixcab, Noh, Chic (fig. 10, 1-15). The seventeenth day corresponds to the Aztec Ollin, "movement"

and "earthquake." Caban and Kixcab contain the root *cab*, "earth." *Kixcab* means "earthquake" in Chuh, and "valley" or "plain" in Pokomchi, according to Stoll; the same word appears to connote earthquake also in Santa Eulalia, La Farge notes. The Jacalteca cognate Noh is associated with the earth, and Seler states that among the Quiche *noh* means "strong," "powerful," and "earthquake," although none of those derivations is given in more recent works on the Quiche. There is fair unanimity in associating the day with the earth or with earthquake.

The symbolic form of the glyph has as its main feature a design resembling a query mark. As first pointed out by Seler (1902-23, 1:548), and as subsequently agreed by most specialists in the field, this represents the lock of hair worn by the Goddess I in the Maya codices (fig. 14, 23, 24). This identification was effectually confirmed by the decipherment of the full-figure representation of Caban on Stela D, Quirigua. This glyph shows the head of the youthful goddess with the corkscrew lock on the side of her face (p. 131; fig. 10, 7). Absolute proof that this is the symbol of the moon goddess is in Landa's so-called alphabet, where it is given the phonetic value of the letter *u*, which is the Yucatecan name for the moon. It is the same profile which serves as the head variant for the number one and as that of the deity of the month Kayab. The head is that of the young moon goddess who is at the same time goddess of the earth and of the crops. The glyph appears in various contexts. Sometimes the meaning is uncertain; in others it clearly refers to the earth, as when plants grow from it or gods are seated on it (fig. 14, 19, 20). In view of the moon's connection with marriage, it is not surprising to find that among the Quiche this is regarded as a day suitable for asking the consent of a girl's parents to her marriage.

The Kaua and Mani lists give the position of augury to the woodpecker. The reason for this is probably to be found in a tradition of how the woodpecker helped to obtain maize for man by pecking the rock under which it was hidden to find the weakest point. This incident is preserved in legend and in Chumayel (p. 111), save that in the latter case the bird is the macaw. It is, therefore, not inappropriate that the day of the goddess of the earth, maize, and moon should be associated with the bird who aided in bringing maize to mankind. The day is also associated with medicine and successful commerce, the first of which was very definitely under the patronage of the moon goddess.

Caban, then, is the day of the young goddess of the earth, the moon, and the maize.

Etz'nab, Tihax, Chinax (fig. 10, 16-30). The nineteenth day in the Maya list corresponds to the day Tecpatl, "flint knife," of central Mexico. The auguries in the

Kaua list are in complete agreement with this. As translated by Barrera Vasquez these read: "The bleeder for fevers. The sharpened flint. The mot-mot bird is its augury. In good health. Medical bleeder, medical healer also. Valiant also." It is the custom among the present-day Maya to bleed for fevers by opening a small vein in the temple with a chip of flint or glass. The term here used is *Ah tok chacuil*, which actually means "the user of flint for fevers."

The names Tihax and Chinax contain the words *ti* and *chi*, which mean mouth in almost all Maya languages and dialects (*ti* in the Chiapas group; *chi* in the others). Representations of flint or obsidian blades in Mexican codices are quite generally supplied with a mouth and a formidable set of teeth. The knife clearly was regarded as something that bit into the flesh, and this is the idea apparently behind the word in the highlands of Guatemala, for Schultze Jena connects it with the Quiche root *ti*, which carries the idea of biting. It is just possible that the endings *nax* and *hax* convey the idea of downward motion.

Ximenez says Tihax means "death cutting asunder" and that it signifies obsidian knife. The Jacalteca associate the day with the earth; in Chiapas, according to Nuñez de la Vega, Chinax was a great warrior who was always pictured with a banner in his hand. He was slain and cremated. Barrera Vasquez has shown that Etz'nab is a sharpened implement, and the words he cites from the Motul dictionary give the impression that the action carries the idea of pressure-flaking, which, of course, was used in preparing the finest blades of flint and obsidian.

The standard glyph of Etz'nab has been identified as a picture of a pressure-flaked blade, and it has been noted that the same design is frequently depicted on the stone or obsidian heads of spears. In the early representations of Etz'nab (fig. 10,16-19) the resemblance is much more apparent.

In central Mexico there was a deified form of the obsidian knife, the god Itztli, who was one of the nine lords of the underworld and of the nights, but of whom little else is known. To judge by the pictures in various codices, he is sometimes merely a manifestation of Tezcatlipoca. Xipe, the god of flaying, was also an obsidian god, but apparently of the rare red obsidian or of the white flint.

Chai Abah, a block of obsidian, was supposed to have been one of the principal deities of the Quiche, but our knowledge concerning this deity is very unsatisfactory, for it is largely derived from the *Recordación Florida* of Fuentes y Guzman, a work in which, unfortunately, the *florida* (flowery) presentation is usually more important than the accuracy of the *recordación* (remembrance).

A deity Hunpictoc, "8000 flints," is said to have been worshipped at Izamal in Yucatan, but nothing further is known concerning him. So far as I am aware, no representations of anthropomorphized blades of flint or obsidian exist in the art of the Initial Series Period.

The sacrificial knife was known in Yucatan as *u kab ku*, "the hand of the god" (Scholes and Adams, 1938, 1:142). This may well be the reason why hands are substituted for blades at the ends of the staff carried by the animal impersonators in the new-year ceremonies pictured in Dresden.

Etz'nab accordingly is the day of some god connected with the flint or obsidian knife, perhaps an anthropomorphized blade, but more probably a deity that presided over human sacrifice, not improbably God Q (p. 131). The only known head variant of Etz'nab presumably represents this deity.

Cauac, Caoc, Chavuc, Caq (fig. 10,31-45). The nineteenth day corresponds to Quiauitl, "rain," of the Mexican plateau. The sundry names for this day in the Maya lists are clearly related, and signify "storm," "thunder," "rain." A few of these words are: *chauc*, "thunder," "thunderbolt" in Tzotzil; "lightning" in Chaneabal; "storm, thunder, thunderbolt, shower" in Tzeltal. *Cahok* is "lightning" in Pokoman and *kakh* is the Kekchi word for storm, and somewhat similar forms occur in other highland languages (cf. Gates, 1931b).

Ximenez assigns the meaning "rain" to the Quiche day. The elements of the day sign frequently appear on the bodies of celestial dragons, which represent the Itzamnas, gods of rain (fig. 15,11-13). They also form the haab, "year," glyph. Sometimes, particularly at Quirigua (fig. 32,31), this haab glyph is the head of a deity with reptilian features and the cauac symbols.

Cauac, then, is the day of the celestial dragons which send the rain and the storms.

Ahau, Hunahpu, Ahpu, Ahpum, Pu, Kitix (figs. 10,46-68; 11,1-36). The last day corresponds to the Mexican Xochitl, "flower." Ahau means chief or lord in a number of Maya languages or dialects, notably Tzotzil, Chaneabal, Chol, Chontal, and Yucatec. With the female prefix *ix* substituted for the masculine *ah*, it is the name for the moon in Chaneabal, Mam, Aguacatec, and Jacalteca. Since the sun was the husband of the moon, it is logical to assume that the title Ahau, "lord," was given him, since moon was called Ixau, "lady." Kitix, the alternative name for this day among the Ixil, means sun.

Ahpu is "he of the blowgun." In the Kekchi and Mopan myth of the sun and moon, the blowgun is the weapon of the young sun god. The Zutuhil day name P'up' must surely mean blowgun.

The glyphs of Ahau may take the form of a conventionalized face or, in the personified forms, they may represent a handsome young man in profile, who is almost certainly the young sun god. Sometimes the head of an eagle or a vulture replaces this youthful face, recalling the fact that in central Mexico eagle was a name for the sun. That this same concept existed among the Maya is proved not only by the substitution of the eagle head for the usual Ahau head, but by the scene of human sacrifice on Dresden 3, which shows the eagle consuming the blood of the sacrificial victim. Moreover, the Kaua list gives rapacious eagle as the animal of the day Ahau.

There is a close connection between the sun and flower. Both the sun and moon are associated with the frangipani, symbol of sex, because they were the first couple to cohabit. The normal form of the kin sign is a four-petaled flower. In a version of the sun's courtship of the moon in Chumayel (p. 105) we read "Four-fold was the plate of the flower, and Ah Kin Xochiltun [a name for the sun god] was set in the middle." In central Mexico Xochipilli, "Flower prince," was the young sun god, and his day was Xochitl. It is, accordingly, clear that the Mexicans called the sun god's day Xochitl, "flower," because that was a symbol of the sun.

Ahau, then, was the day of the sun god.

In Table 4 the day signs are listed, together with their symbols and the gods they appear to represent. The last column requires an explanation. The numbers 1-13 are usually written by means of bars and dots. Sometimes heads, each with its characteristic attribute or distinguishing mark, replace the bars and dots (figs. 24; 25). The characteristics and meanings of these heads are discussed elsewhere (pp. 131-36). Suffice it to say that starting with the head for one, there is a remarkable correspondence between the gods of the days, beginning with Caban, and the gods of the numbers 1-13.

1. Head of the young goddess of the moon, earth and maize. Caban.
2. God with hand over his head. The connection between hand and stone knife has been noted. Etz'nab.
3. The youthful head of the number 3 is not that of the celestial dragon, but it carries the Ik sign on the cheek, and that is the symbol of life, which has a natural association with Itzamna, who sends the life-giving rains. Cauac.
4. Head of aged sun god. Ahau.
5. Head of aged god, Schellhas' God N. Perhaps Mam, the earth god. He often wears a shell on his back, denoting his connection with the earth (p. 133). Imix.
6. God with axe in his eye. God B is usually shown carrying an axe. Ik.
7. The jaguar god with the cruller ornament on the bridge of his nose, god of the underworld and darkness. Akbal.
8. The maize god. Kan.
9. The god with spots or hair on his chin, the Chicchan god. Chicchan.
10. The death god. Cimi.
11. The god has the Caban sign, indicating that he is a god of the earth. Earth deities were also gods of hunting and protected deer and other wild animals. Manik.
12. The head on two occasions wears the sky sign as a headdress. This element enters into the glyph and name of Lahun-Chan, the Venus god. Lamat.
13. A god with reptilian features, in all probability an earth monster. On two occasions at Palenque his headdress is decorated with what is probably a water-lily flower. Muluc.

The deities of the days Oc to Cib do not seem to correspond with any numerical sequence. Why the series should start with Caban is not clear. There is not complete agreement between the deities of the days Caban to Muluc and the heads for the numbers 1-13, but the correspondence in most cases is too striking to be fortuitous. The subject is discussed in more detail on pages 131-36. Goodman (1897, pp. 53-63) also believed that the day signs, starting with Caban, represented numbers or, rather, could be used as numbers, but many of his deductions were so fantastic that his theory was discredited. He also assigned numerical values to the month signs, and scores of other glyphs.

INFLUENCES OF DAY NAMES

There is a striking disagreement as to the values of the days in terms of benevolence and malevolence. In fact this variation is carried so far that there are cases in which a day is lucky in one Quiche town and unlucky in another town of the same speech.

It is difficult to account for such opposing concepts unless one assumes that there has been a serious deterioration in the art of divination since the Spanish conquest. One must suppose that when the calendar was functioning undisturbedly there was a fairly wide agreement as to which days were lucky and which were unlucky, but at the present time so many of the old concepts have been lost that there has been room for new ideas to develop independently.

It is virtually certain, for example, that at the present time no diviner in the highlands of Guatemala is aware that Lamat was the planet Venus. With the loss of that association, a new influence had to be sought. The highland name for this day, Kanil or Khanil, probably came from the Chiapan word for star. With that origin no longer remembered, the diviners noted a resemblance to an old word for ripeness and ripe corn, and proceeded to regard the day as lucky for the maize crop. A comparable change in meaning has taken place among the Quiche with regard to Ah Mac. It formerly meant the souls of the dead; now, sinners.

TABLE 4—MEANINGS, AUGURIES, AND GODS OF THE DAYS

YUCATEC NAMES	INTERPRETATIONS OF GLYPHS	MEANINGS OF YUCATEC NAMES	ASSOCIATIONS AND AUGURIES	AZTEC NAMES	PRESIDING GODS	ASSOCIATED NUMBERS
Imix.....	Flower of water lily	Earth monster	Earth (H) Maize and fruitfulness (Y)	Earth monster	Earth crocodile	5
Ik.....	Life, breath	Life, breath	Breath, wind	Wind	God B	6
Akbal.....	Interior of earth	Darkness	Darkness Jaguar ? (Y)	House	Jaguar	7
Kan.....	Maize	Ripe maize	Ripe (H) Maize (Y)	Lizard	Maize	8
Chicchan.....	Celestial snake	Celestial snake	Snake	Snake	Celestial snake	9
Cimi.....	Death god	Death	Death god (H) Owl (Y)	Death	Death	10
Manik.....	Hand, sting of scorpions?	Uncertain	Whistler ? (Y) Deer (H)	Deer	Earth	11
Lamat.....	Venus symbol	Uncertain	Lahun-Chan (Y)	Rabbit	Lahun-Chan (Venus)	12
Muluc.....	Jade or water	Collected?	Xoc fish (Y)	Water	Ah Xoc	13
Oc.....	Dog	Enter (the underworld)	Adulterer (Y) Dog, adulterer (H)	Dog	Dog of underworld	..
Chuen.....	Uncertain	Craftsman	Craftsman (Y) Howling monkey (H)	Monkey	Ah Chuen	..
Eb.....	Destructive Water	Mist, drizzle, rust on plants		Twisted grass	Destructive rain god	..
Ben.....	Uncertain	Uncertain	Food (Y) Green maize (H)	Reed	Maize	..
Ix.....	Jaguar skin or ear	Jaguar	Jaguar	Jaguar	Jaguar	..
Men.....	Old moon goddess of weaving	Wise one	Weaver Wise one (Y) Bird (H)	Eagle	Old moon goddess	..
Cib.....	Section of shell?	Wax	Deer god (Y) Souls as insects (H)	King vulture	Bacab-Tzitzimime?	..
Caban.....	Lock of earth goddess' hair	Earth	Woodpecker (Y) Earth (H)	Movement	Youthful earth and moon goddess	1
Etz'nab.....	Knife blade?	Sharpened instrument?	Bleeder (Y) Tear flesh (H)	Flint	God of sacrifices	2
Cauac.....	Rain	Storm	Quetzal (Y) Storm (H)	Rain	Celestial dragon; Itzamna	3
Ahau.....	Sun god	Lord	Eagle (Y) He of the blowgun (H)	Flower	Sun	4

H stands for highlands of Guatemala; Y, for Yucatan.

The same process took place in Yucatan as is shown by page 6r of Chumayel, on which the 20 days are associated with the creation of the world. In that account 2 Eb is the day on which God made the first stairway, and on 6 Cib the first candle was made. *Eb* means stairway and *cib* means candle, but it is abundantly clear that these were not the original meanings of the days. In fact candles were a post-Columbian introduction. Yet some of the old associations remain, for Muluc is the day of the flood, and Imix, that on which rocks and trees were created.

adversity, are marble constant. The miracle is that any part of the calendar has survived four centuries of European domination; one could hardly expect that the delicate arrangement of checks and balances stemming from the characters of a forgotten mythology would remain. The spiritual contexts of the days have been lost; ignorance has produced haphazard substitutes.

The chaotic conditions which this decay has produced are manifest in Table 5, which lists the auguries for the days according to various sources. The column of good and bad days of Tizimin is an averaging of the auguries

TABLE 5—GOOD AND BAD DAYS

DAY	YUCATEC (Kaua)	YUCATEC (Tizimin)	QUICHE (Sapper)	QUICHE (Schultze Jena)	CHUH (Ixtatan 1)	CHUH (Ixtatan 2)	CHUH (El Quezcal)	SANTA EULALIA	JACALTECA	IXIL	AVERAGE	AZTEC (Sahagun)	MAYA INSCRIPTIONS
Imix.....	B	B	B	B	G	B	G	G	G	G	I	G	G
Ik.....	B	B	G	B	B	B	B	G	G	G	B	B	I
Akbal.....	B	B	B	B	G	G	G	G	G	B	B	B	B
Kan.....	G	B	B	B	G	B	B	I	B	B	I	B	B
Chicchan.....	B	G	B	B	B	G	B	G		GS	B	G	B
Cimi.....	B	G	B	G	G	G	B	G	B	B	G	I	I
Manik.....	B	I	G	G	B	B	B	B	B	B	B	B	I
Lamat.....	B	B	G	GS	G	G	G	G	I	G	G	G	G
Muluc.....	G	B	B	GS	G	G	B	B	B	B	B	B	I
Oc.....	B	G	B	B	B	B	B	B	B	B	B	B	B
Chuen.....	G	B	B	GS	B	B	G	G	B	G	I	G	B
Eb.....	G	B	G	GS	G	B	B	B	GS	G	I	B	G
Ben.....	I	B	G	GS	G	G	G	G	GS	G	G	B	I
Ix.....	B	B	G	G	B	B	B	B	G	G	I	B	I
Men.....	G	I	G	GS	B	G	G	G	B	G	G	B	B
Cib.....	B	I	B	G	B	B	B	B	B	G	B	G	I
Caban.....	G	I	B	B	B	B	G	G	G	GS	I	I	G
Etz'nab.....	G	G	B	B	G	G	G	G	G	G	G	G	B
Cauac.....	I	I	I	GS	G	G	G	G	G	G	G	B	B
Ahau.....	G	I	I	I	G	G	G	G	G	G	G	I	I

G, good; B, bad; I, indifferent; GS, day favorable for prayers for some special matter, usually of secondary nature; BG, one town or good informant regards the day in question as bad whereas another of same speech considers it lucky.

The Maya calendar of today is a pitiful survival. It is not unlike those many ecclesiastical buildings of colonial Middle America which have fallen into such disrepair that now all that stands is some corner, used as a jail or as quarters for a detail of soldiers. A section of ornate balustrade, the stump of a wide-flung arch, or the mildewed stucco of some ornamental frame are clues to a glory that has departed. The structure of the Maya calendar remains, but the embellishments are no more. The nobility of the Maya concept of eternal time has gone, the gods are largely forgotten, and the pomp and much of the meaning of the count are lost, but the 260 days, the rock which has withstood the buffetings of

for the 13 repetitions of each day (to form the complete cycle of 260 days). Where over seven of the 13 occurrences of a day are listed as good or bad the day is entered accordingly in the table. Where the lucky and unlucky days are divided seven and six the day is entered as indifferent. This series of auguries may, however, have shifted from one set of days to another, as is noted in App. I. The Aztec material is derived from Sahagun's list of "weeks." It is the one list which is truly aboriginal. The final column is based on the occurrences of all day signs on the monuments in order of frequency: the seven days most commonly recorded on the monuments are listed as good, the next six as indifferent, and the last

THE CYCLE OF 260 DAYS

TABLE 6
DISTRIBUTION OF DAYS OTHER THAN PERIOD ENDINGS ON THE MONUMENTS

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTALS
IMIX	■	■	■	■	■	■	■	■			■	■	■	47
IK	■	■				■		■	■		■		■	25
AKBAL	■		■	■	■		■	■	■	■	■	■	■	17
KAN	■	■	■	■	■	■	■	■		■		■	■	35
CHICCHAN		■	■			■	■	■	■		■	■	■	15
CIMI	■	■	■	■	■	■	■	■	■	■	■	■	■	27
MANIK	■	■	■	■	■	■	■	■	■	■	■	■	■	32
LAMAT	■	■	■	■	■	■	■	■	■	■	■	■		37
MULUC	■	■	■	■	■	■	■	■	■	■	■	■	■	30
OC	■		■		■		■	■	■	■		■		16
CHUEN		■	■	■		■	■	■	■			■		17
EB	■	■	■	■	■	■	■	■	■		■	■	■	31
BEN	■	■	■	■	■	■	■	■	■	■	■	■	■	28
IX	■	■	■	■	■	■	■		■	■	■	■	■	25
MEN	■		■	■	■	■	■	■		■	■		■	17
CIB	■	■	■	■	■	■	■			■		■	■	24
CABAN	■	■	■	■	■	■	■	■	■	■	■	■	■	42
ETZ'NAB	■		■		■	■		■	■		■	■		19
CAUAC	■	■	■	■	■	■					■	■	■	18
AHAU	■		■	■	■	■	■	■	■	■	■	■	■	64
TOTALS	45	35	39	40	56	56	51	49	60	24	39	49	23	566

seven as bad. It should be noted, however, that a point is given for each repetition of a date, such as 6 Caban 10 Mol of Copan. This is done because repetition shows a date was important, and one may suppose that important dates were also lucky ones. The data from the monuments may present a distorted picture because conditions were probably such that the priest had a choice of several days in picking determinants. He might have a choice between, say, 8 Ahau 13 Mol and 9 Chicchan 13 Mol, a year later. He probably chose the Ahau date because Ahau, the day of the sun, was very favorable for such calculations.

The distribution is very interesting. Ahau leads the field with 64 occurrences, followed by Imix (47), Caban (42), Lamat (37), Kan (35), and Manik (32). It will be noted that each of the first five day-signs belongs to a different group if the 20 days are divided in five groups at four-day intervals. As will appear later, a division of this nature in fact existed, for, owing to the construction of the calendar, only those days which are five places apart in the series can fall on the same month position. For example, only Akbal, Lamat, Ben, and Etz'nab fall on first of Pop, and only Kan, Muluc, Ix,

TABLE 7—FREQUENCIES OF DAYS WITHIN GROUPS

GROUP 1		GROUP 2		GROUP 3		GROUP 4		GROUP 5	
Imix (2)	47	Ik (11)	25	Akbal (16)	17	Kan (5)	35	Chicchan (20)	15
Cimi (10)	27	Manik (6)	32	Lamat (4)	37	Muluc (8)	30	Oc (19)	16
Chuen (16)	17	Eb (7)	31	Ben (9)	28	Ix (11)	25	Men (16)	17
Cib (13)	24	Caban (3)	42	Etz'nab (14)	19	Cauac (15)	18	Ahau (1)	64
Totals	115		130		101		108		112

Therefore, the rare occurrences of Chicchan on the monuments may not indicate that that was an unfavorable day, but merely that Ahau was luckier for such purposes.

This table has the disadvantage that it does not take into account the influences of numbers on days, but in the whole range of the almanac these tend to cancel out.

The closest correspondence is between Tizimin and the Aztec series if one treats the various highland lists as a single unit. The material from the monuments of the Initial Series Period does not agree well with any other list, but there is a logical explanation for this. Most Maya dates, other than period endings, are of an astronomical or astrological nature. A day which is rated as favorable in the other lists because it is auspicious for farming or hunting, may be unfavorable for recording solar or lunar phenomena. The present-day lists of the Guatemalan highlands and the somewhat earlier list of Tizimin have as their function the rating of days as they affect the daily activities of the Maya peasant; the choice of days on the monuments was governed by problems of solar, lunar, and planetary calculations.

Table 6 lists all decipherable days on the inscriptions of the Initial Series Period other than those which marked the ends of baktuns, katuns, and 5, 10, 13, and 15 tuns arranged to show the frequency of each of the 20 days in combination with the numbers 1-13. In the preparation of this list I have retained only those day signs which have been deciphered with reasonable accuracy. The propensity to repeat certain dates, such as Copan's 6 Caban 10 Mol and Palenque's 5 Lamat 1 Mol, causes some over-weighting. Yet the repetition of these days on various monuments presumably reflects their importance.

and Cauac can fall on second of Pop, and only those of the Ahau group on third of Pop.

The 20 days are thus grouped in Table 7 above; the position of each in the frequency listing is noted in parentheses, together with the number of times it occurs. It is abundantly clear that Ahau is so popular in its group that it occurs more frequently than the other signs combined. Accordingly, we can be sure that if a solar correction reached third of Pop, the priest-astronomers would try to arrange for a year in which Ahau coincided with that month position.

The luck of the various days in the groups is shown below, the days within each group being arranged in descending order of benevolence:

- Group 1 Imix (G), Cimi (I), Cib (I), Chuen (B)
- Group 2 Caban (G), Manik (G), Eb (G), Ik (I)
- Group 3 Lamat (G), Ben (I), Akbal (B), Etz'nab (B)
- Group 4 Kan (G), Ix (I), Muluc (I), Cauac (B)
- Group 5 Ahau (G), Men (B), Oc (B), Chicchan (B)

Good (G) represents the top seven in the listing; indifferent (I), the next six; bad (B), the last seven. An explanation for the poor showing of all days except Ahau in Group 5 has been offered.

Landa associates only one celebration with the 260-day almanac, although several of the feasts he attributes to the months are probably almanac celebrations. He states that a very great festival lasting three days was held in connection with the day 7 Ahau, and that it was preceded by a period of fasting. It will be noted, however, that 7 Ahau was not a popular day in the inscriptions of the Initial Series Period. Among the Aztec the equivalent

day, 7 Xochitl, was the occasion of a festival in honor of the goddess Xochiquetzal and of the god called 7 Xochitl (probably the calendar name of a deity). Prayers of hunters reproduced by Alarcon show that 7 Xochitl was a ritualistic name for the deer or their patron. In this connection it is worth noting that Landa describes a festival of hunters immediately before noting the festival on 7 Ahau. There is a bare possibility that the two paragraphs belong together, and that 7 Ahau was a hunting festival among the Maya.

The divinatory aspects of the various almanacs of the books of Chilam Balam are discussed in App. I (p. 297).

INFLUENCES OF DAY NUMBERS

The frequencies of the numbers attached to the days in texts of the Initial Series Period are of considerable importance. In descending order (with occurrences in parentheses), they are: 9 (60), 5 and 6 (56), 7 (51), 8 and 12 (49), 1 (45), 4 (40), 3 and 11 (39), 2 (35), 10 (24), and 13 (23).

It is surprising to find 13 at the bottom of the list, as one would have expected that number to have been regarded as favorable because it represents the number of heavens and of the chief celestial gods. The lucky character of 9 has already received comment (p. 54); one would expect it to head the list. Ten, associated with the death god, is naturally near the bottom of the list.

Closer scrutiny of Table 6 brings some surprises. Although 9 is the most popular number, it does not appear in combination with Imix, Kan, or Caban, all of which are favorite days, and is not common with Ahau. The combination 2 Ahau is absent, but Ahau is quite often preceded by the unfortunate 10. One cannot entirely rule out the possibility of chance, but it would appear that in these combinations, we see the results of the laws of divination.

There is strong evidence (p. 131) that the gods who ruled over the numbers 1-13 also were the deities of the day names Caban to Muluc. Accordingly the combinations 1 Caban, 2 Etz'nab, 3 Cauac, 4 Ahau, 5 Imix to 13 Muluc must have represented the overwhelming influence of a single deity, whereas other combinations would involve influences of two deities (e.g. 4 Caban would be affected by the god of number 4, the sun, and the deity of Caban, the moon). Of the 13 days which have the same deity for day and name, only 4 Ahau (sun god) and 5 Imix (earth deity) rank high in the list. Since 9 is so fortunate, one would expect 9 Chicchan to be most favorable, yet there is only one example. 7 Imix, combining jaguar god (number) and earth god (name) is very popular but its reciprocal 5 Akbal (earth god number, jaguar god name) has a low rating. 6 Caban

(rain-and-storm god number, moon-earth goddess name) is a favorite, but its reciprocal, 1 Ik (moon-earth goddess name, rain-and-storm god number) is poorly represented.

The scheme of lucky and unlucky days is far from simple, and its solution probably depends on factors concealed in an elaborate mythology now largely lost.

There is a certain conformity within each group with regard to lucky and unlucky days, although this may be chance. Thus 9 (together with 10, 11, and 13) is not favored in Group 4, and there is only one coefficient of 2 in Group 5; Group 1 does not favor 8, 10, or 13, and Group 2 appears to avoid 10 and 7.

The desire to reach a lucky day probably was an important factor in the choice of dates for solar and other corrections. Copan's famous base for a solar correction was 9.16.12.5.17 6 Caban 10 Mol. This was probably chosen in preference to 9.16.13.6.2 7 Ik 10 Mol, because 7 Ik appears to have been an unlucky day. Sundry factors probably influenced the calculations, but, other things being equal, the Maya would almost certainly have chosen a date falling on 6 Caban rather than on 7 Ik.

The choice of dates was sometimes influenced by a desire to get a series of days with the same coefficients. Thus Lintels 27, 58, and 28 at Yaxchilan carry a single text, the dates of which fall on the following days: 6 Chicchan, 6 Ix, 3 Ix, 10 Akbal, 6 Caban. Obviously it was not chance that three of the five days have coefficients of 6, and a fourth repeats one of those three day names. Other inscriptions show a similar repetition of the same day number or the same day name.

An interesting example of this desire to reach a lucky number is supplied by the first IS of Altar 2, Uxul. This reads 9.9.9.18 9 Etz'nab 16 Zac. The prominence of the number 9 (and in one case a multiple of it) can not have been fortuitous. At Coba there appears to be a variation of this reading on Stela 4 of the suburb at Macanxoc. This date is 4 Ahau 18 Yax with the position 9.9.9.0 in the LC; one 9 was sacrificed, but the lucky day 4 Ahau was reached. There is a little doubt, however, as to the correctness of this decipherment. The Jacalteca regard 8 as the most fortunate number and 1, 4, and 13 are important. When these numbers coincide with Ahau the prayer-makers place candles before the church. The day 8 Ahau is particularly important; outstandingly good days are 8 Ben, 8 Ik, 8 Cauac, 8 Ahau, 8 Akbal, and 8 Manik; in addition, 8 Cimi and 8 Lamat are good. The ancestors of the Jacalteca are 9 Kan and 9 Imix, yet Kan is a bad day, and one should not pray to it (La Farge and Byers, 1931, p. 157). At Santa Eulalia 13 is very good; 9 very bad, with 4, 8, and 12 good, and 3, 5, and 11 bad in certain combinations (La Farge, 1947, pp. 172-76). Here the even numbers seem to be good; the odd ones, except

for 13, bad, suggesting that the influences of the old gods of the numbers have little value. The present arrangement may derive from customs of divination, for even numbers usually mean "yes" and odd numbers indicate a negative response.

Tax (1947, p. 486) lists a number of the most lucky and unlucky combinations at the Quiche town of Chichicastenango. The best are 5 Imix, 8 Imix, 13 Imix, 9 Ik, 13 Eb, 13 Ben, 13 Ix, 9 Caban, 13 Caban, 10 Etz'nab, and 11 Cauac. The worst days are 8 Cimi, 13 Cib, and 9 Ahau. Of these only 5 Imix and 9 Ik appear to have the same significance on the monuments, where they are both very popular numbers.

The luck of the day may have influenced the erection of stelae to mark period endings. The peaks of stelae erection are 9.15.0.0.0 and 9.18.0.0.0 with 9.19.0.0.0 close behind. The days on which these periods end are 4 Ahau, 11 Ahau, and 9 Ahau. The first is the repetition of the formal start of the Maya calendar; the second is the day on which the katun of the creation ended, according to Chumayel; the third falls on the lucky day 9 Ahau. There is a rather marked drop at 9.16.0.0.0, although this was at a time when the custom of erecting stelae was at its peak. That katun ended on 2 Ahau, which has been listed as unlucky in the list of Ahaus that do not end periods. Another plunge occurs at 10.0.0.0.0. This ends on 7 Ahau, also an unpopular day in the earlier list. The peak of half-katun recordings is at 9.17.10.0.0, which ends on 12 Ahau, a popular day in the earlier list.

These figures for katun and half-katun endings can not, however, be given too much weight since they were undoubtedly influenced by the prosperity of the cities during the last quarter of Baktun 10. The half-katun 9.18.10.0.0 is the second highest peak in that series. That ended on 10 Ahau. The number 10 was generally unlucky, but 10 Ahau has a rather high place in the list of Ahaus that do not end periods. The point about which one cannot be sure is how many stelae would have carried this date had it ended on an unlucky day, for example 2 Ahau.

From what has been said above I think that the desire to avoid unlucky days, the state of prosperity of the Maya people, and the influence of the priesthood all contributed to the decision as to whether a new monument should be erected.

RITUALISM OF DAYS

This statistical analysis of the days and their number is irksome and, in a sense, outrageous: it is as though one were to discuss the glowing colors of the mediaeval glass of Chartres in terms of Ridgway's color chart or to record Gregorian chants in decibels. Unfortunately, it is the only

way in which we can get information on the incidence of good fortune in the Maya count of 1200 years ago.

To give an idea of the importance the calendar still retains in the life of Maya communities in the highlands of Guatemala, and to counteract the metallic taste of numbers in the mouths of my readers, I quote at length from Antonio Goubaud's description of the ceremonies at Momostenango on the occasion of the celebration of the feast of 8 Batz (8 Chuen), the most important day in that Quiche town (1937, pp. 20-27).

All the natives of the village of Momostenango feel bound to observe this day, and for this purpose all those who happen to be away return to their place of birth. They firmly believe that breaking this rule causes illness or even death.

In spite of the fact that 8 Batz is a general ceremony for all, it is in itself individual for each person, so that, although large groups come together to celebrate it, there is no established routine for its observance, such as happens, for instance, for the dramatic dances. . . .

The celebration of this feast begins in the evening of the previous day, and in the afternoon the Indians begin to arrive at the church of Momostenango. By eight in the evening of that day the church is completely full of Indians, kneeling in parallel rows, face to face, and filling the whole width of the church. They light candles which they place on the floor, and, burning native incense in clay censers, they pray aloud with deep faith. The murmur of the fervent prayers, the thin light of the candles in the cloud of pale gray smoke of the aromatic incense, give the entire scene an atmosphere of intense spiritual emotion. . . .

On the day 8 Monkey [8 Batz] (which in this case happened to be the 24th of August), at dawn, the Indians go to a place called Chuti-mesabal, "little broom," which is about half a mile west of Momostenango, where the pagan altars . . . are found. These altars are mounds, three to ten feet high, the tops of which are covered with potsherds. . . .

By nine in the morning a multitude had already gathered there. It is estimated that from fifteen to twenty thousand Indians congregate at Momostenango for this ceremony. In front of each altar were the *chuch-ka-hau* [shamans who are those best acquainted with the calendar]. Men officiated at some of them; at others, women, for the profession of shaman is not restricted to men. . . .

Around the *chuch-ka-hau* gathered the Indians for whom they were praying. One person or a group—a family for example—arrive at one of the altars and deposit at one side of it pieces of broken pottery which they bring as an offering to the divinity. . . .

One person, or at most two, go to the *chuch-ka-hau* at one time, that he might make his prayers for them. The shaman asks them their names, and the object for which he must pray, which is: the expiation for sins committed, for physical, moral, spiritual and economic well being as well as to express gratitude to the divinity for gifts received. Upon payment of a tiny sum of money, usually a penny, the *chuch-ka-hau* begins the rite. He takes a pack-

age of native incense [of the most sacred kind] . . . [and offers it] to the divinity, burning it in the niche which is built in each altar for that purpose. These niches are of semi-circular shape, about twenty inches wide by fifteen inches deep, formed by potsherds that on this occasion are decorated with pine boughs.

Located at one side of the incense which the *chuch-ḱahau* burns, a little bag of cotton . . . may be seen, which is the visible sign that he who officiates at the altar is an authorized intermediary between man and the divinity. This bag contains the objects used by the *chuch-ḱahau*. . .

The ceremony for each person is very long, because the shaman prays interminably, mentioning to the deity all kinds of the most intimate details of the life of the suppliant. Sometimes the shaman offers a little liquor, *aguardiente*, to the divinity, and afterwards takes the offering himself. . . . When the shaman is slightly intoxicated, he believes himself closest to the supreme deities. . .

Near the big altars, on secondary altars, pray the recently initiated shamans, who are not so sought after as the older ones to celebrate the ceremony. For the families of the shamans there are exclusive altars at another place. . . .

The rites last at Chuti-mesabal until twilight. At dusk the ceremony moves to the brow of a hill called Nimesabal, "big broom." . . . There, during the whole night, the shamans pray before other altars similar to those below at Chuti-mesabal, and burn incense continually. So great is the gathering of people at this place that for these days they put up rows of booths where all kinds of edibles, drinks, candles and incense are sold.

The two days following 8 Monkey are also dedicated to the world divinity, and almost all the Indians remain in Momostenango praying during those days.

Lincoln (1942, p. 213) describes more briefly the celebration of 5 Noh (5 Caban in Yucatan) by the Ixil on its return 260 days after it had occurred as New Year's day.

This shrine [of Huyl], two hours' ride from Chajul, is built on an archaeological site on the mountain of the same name, and is the most sacred spot of the whole Ixil people. "Angel Huyl is what holds the world together" they say. The building itself outwardly resembles any Ixil house with tiled roof and veranda. Inside are six large crosses on a raised stone altar, and three average-sized ones wrapped in leaves and palm fronds and draped with *alameḱ* (*cola de leon*), the sacred plant. Below at the back were six crosses, only about four inches high. In front of the crosses were many large stones from a pre-Columbian structure, and great heaps of copal ash. In addition, there was a long wooden bench in front of the shrine.

About a quarter of a mile up the mountain are the ruins of a pre-Columbian ceremonial center. . . . Actually the whole mountain is regarded as a deity, and long before reaching the shrine one removes one's hat, and approaches with great reverence.

Before sunset Indians . . . began to arrive. They lit candles and copal, and prayed before the crosses. All were professional calendar priests, most of them accompanied by their families. Women and children moved in, lit fires,

and cooked while the calendar priests recited their long prayers. The calendar priest, who accompanied us, offered our candles and copal, prayed for us by name, and let off four rockets, one for each Dominical day [days on which new year can fall, among the Ixil the equivalents of Ik, Manik, Eb, and Caban]. . . . Later more and more Indians arrived. . . . Praying, drinking, and music went on all night in the hut, attended by possibly 300 Indians. By morning the night crowd had thinned out, but all during the day (November 26—6 Noh) calendar priests kept coming up from Chajul and other towns.

La Farge and Byers (1931, pp. 173-75) give an outline of the ceremonial year at Jacaltenango from March 15, 1927. A section of this is given below in abbreviated form since it well summarizes the rhythm of ritual. The Jacalteca day names have been converted to their Yucatecan equivalents.

- 6 Eb (March 15). Preparations completed for the new-year ceremony. Prayer-makers and laymen prayed in front of the church and the crosses all day.
- 7 Ben (March 16). New year entered with 7 Ben as year bearer. The whole village prayed at the church between dusk and midnight. At midnight the *cahampal* rite, which involves the sacrifice of a turkey or fowl, was performed by prayer-makers and private families. Prayer-makers began a "follow-up" prayer lasting 20 days.
- 8 Ahau (April 12). Very auspicious. Prayer-makers held *cahampal* for the animals of the village. Deer dance began in neighboring village as the start of the festival of St. Mark, 13 days later.
- 8 Ben (April 25). Feast of St. Mark. Prayer-makers begin 20 days of prayer preceding rain ceremony.
- 2 Ben (May 15). Climax of prayer for rain. Followed by another 20 days of prayer. Fourth recurrence of day (but not number) of year bearer.
- 4 Ahau (July 30). A very good day. *Cahampal* in celebration of first green corn was probably held on this day.
- 4 Ben (August 3). Start of 13 days of prayers against locusts.
- 11 Ben (August 23). Start of 30 days of prayer preceding the *cahampal* of the boundaries.
- 12 Ahau (September 19). Feast of the new beans or "flute tamales" was probably on this day. Bean tamales made by all. A clay flute was played while the beans were cooking. Afterwards it was broken into the pot.
- 2 Akbal (September 22). *Cahampal* of the boundaries in which a bull is sacrificed.
- 4 Kan (November 2). Sixty days before civil new year's day. Election of ceremonial officers for following year.
- 7 Ben (November 30). Recurrence of year bearer. Prayer-makers held a *cahampal*.
- 4 Akbal (December 11). New and retiring prayer-makers start 20 days of prayer preceding the installation on civil new year's day.
- 1 Etz'nab (February 24). Start of 20 days of prayer prior to new year bearer.
- 3 Ben (March 10). Last day of year. Souls of little children visit this world. Five nameless days (p. 117) intervene.
- 8 Etz'nab (March 15). Entry of the year bearer of the new year.

It will be noted how the ceremonies tend to follow the day Ben, which is that of the year bearer. In the following year there would have been a similar concentration on the day Etz'nab. Such an arrangement is, of course, perfectly logical. Ben was the year bearer, he was in charge of the year; it is natural that ceremonies should be held when his interest was, so to speak, doubled, through a combination of his influence as regent of the year in general and of that day in particular.

Such, then, is the important rôle the cycle of 260 days plays on the modern stage, for the actor is seldom off the boards, and even from the wings his influence is felt. How much richer must have been this part in the pageantry of Maya life before Columbus sailed westward. Today Orson Welles, not David Garrick, is in the green room.

DIVINITY OF THE DAYS

In discussing the meanings of the day names evidence has been produced to show that the days were originally gods, and it has been suggested that they were always regarded as such. This idea is well exemplified by the attitude of the present-day Maya of the highlands of Guatemala toward the days.

The divinity of the days is strongly emphasized by La Farge (La Farge and Byers, 1931, pp. 172-73). He writes:

When speaking of these day-names I have called them "he" instead of "it," and referred to them as being "in charge" of a day, or in the case of the year bearer, "coming into office." This is in strict accordance with local usage, and also is done to emphasize the fact that strictly speaking these names are not the names of days, but of "men" who control days. . . . These twenty men have charge of their respective days, the informants spoke of "his day". . . . The soothsayers stated definitely that "these men" granted the prayers, and would say of a given day-god "he does so-and-so."

La Farge also notes that the year bearers are sometimes given the highly honorific *komam*.

Lincoln (1942, pp. 112, 123) relates that in Ixil prayers "the 20 sacred day-lords of the calendar with their respective 13 numbers are invoked," and in one prayer gives the sentences "At this time, it is the day 1 Kan [1 Chicchan], it is the day 2 Kamel [2 Cimi]. To you two Day-Lords I come to offer gifts" and "At this time, too, to you, our fathers, Day-Lords, 13 I'x, 1 Tzikin, 2 Amak, 3 Noj, 4 Tijax, 5 Kauok, 6 Hunahpu, 7 Imux, 8 I'q, 9 Akbal, 10 Katch, 11 Kan, 12 Kamel, 13 Tche. O Thirteen kings who are seeking their substance and food."

The days which can serve as year bearers in the Ixil

calendar are, like those of the Jacalteca, given a special title of respect which also emphasizes the concept that they are living beings, for they are called "our father," or "our father king" (*cubal rey*), or by the Spanish word, now completely indianized, *alcalde*. This literally means "mayor" but in function corresponds to our word "chieftain." The current year bearer is the "*alcalde mayor*" roughly translatable as "principal chieftain."

Evidence that the Maya of Yucatan regarded the days as alive, and presumably also as gods, is to be found in the prefixing of the masculine gender *ah* to the day 5 Ahau, as the name of a katun in an archaic passage in Tizimin. He is called *ah ho Ahau*, literally "he, 5 Ahau," for *ah* denotes the masculine gender for both gods and men. In this same text the year bearer is called *ah oxil Kan*, "he, 3 Kan." The masculine gender is also prefixed to day names in Chumayel and Kaua, although the custom was by no means general. Similarly we find in the chronicle of Mani *ah oxlahun Ahau*, "he, 13 Ahau." This refers to a katun.

In the passage in Chumayel describing the birth or creation of the 20 days, we read: "Then they [the days] went to consider and spoke as follows. . . . Then the reason was sought by the first ruling day why the meaning of the word to them was not repeated so that they could declare themselves. Then they went to the center of heaven and joined hands." One could hardly ask for a clearer proof that the Maya regarded the days as animate and sentient beings.

The living nature of the days is to be seen also in Nuñez de la Vega's description of the Chiapan calendar, for he speaks of them as heathens or gentiles, and says of 13 Tox that he is the devil. Furthermore, Roys calls my attention to the faces which precede day names in the first part of Ixil.

In the discussion of the series of days it has been made abundantly clear that the day names derive from gods. There does not seem the slightest reason to doubt that each day name referred to the god who was in charge during its course; days did not represent abstract ideas, such as darkness, storm, or death, but the gods who had dominion over them.

NAMES OF THE 260-DAY CYCLE AND OF ITS DIVISIONS

The Maya name for the 260-day period is not surely known. For many years the Mexican word *tonalamatl* was used by archaeologists as a name for this period in the belief that that was the true Aztec term. Recently, however, Caso (1937, pp. 131-33) has shown that *tonalamatl* means not the period of 260 days, but the book in which the 260 days with their divinatory material were painted

(*amall* is the name of trees of the genus *Ficus* from which paper was made, hence the derived meaning of paper and book). The name for the period itself, Caso points out, was tonalpohualli.

Gates (verbally about 1921, subsequently in print) suggested that the Maya name for the cycle of 260 days was *tzolkin*, which means literally the counting in order of the days. This word has come into rather general use in recent years despite the fact that Long (1934) has demonstrated that *tzol* is a general word that can be used for any sort of count of days, weeks, or nights and serves both for a reckoning of 365 days and for a count of 260 days. Indeed, Wisdom tells me, the Chorti use *tzohrk'in* (shift to Chorti *r*) for the European calendar! The word should be dropped, for an erroneous term masquerading as the true one is worse than none at all.

Friar Francisco Vasquez (1937-44, bk. 1, ch. 15), speaking of the efforts of one friar to eradicate superstitions and traces of idolatry among the Cakchiquel of Comalapa, says "he drew them away from many bad and superstitious customs of their heathenism, especially a count of days which they called *utzilahquih*, full of errors and computations of judiciary astrology." The mention of astrology and superstition makes it virtually certain that Friar Vasquez was speaking of the count of 260 days. *Utzilahquih* perhaps means "the completion of the days," but more probably is "the good luck of the days" (*utz*, "good," "lucky"; *quih*, "day," "sun").

So far as I am aware, no equivalent name in a lowland language and dialect has been noted. In the absence of any Maya word other than the Cakchiquel *utzilahquih*, it seems best to use an English term. I shall refer to this count as "the 260-day cycle" or "the divinatory almanac" or "the sacred almanac." The period of 20 days (from Imix to Ahau), 13 of which formed the sacred almanac, appears to have been called *uinal*.

In Chumayel (pp. 60-63) there is a passage recounting the birth of the *uinal*. The *uinal* there listed started with the day 13 Oc and runs to 6 Muluc; a second one runs from 8 Muluc to 1 Lamat. This suggests that any sequence of 20 days was a *uinal*. *Uinal* is also used in the same source (p. 23) as a name for the months. These, too, are of 20 days, but start with Akbal, Lamat, Ben, or Etz'nab (Ik, Manik, Eb, and Caban if the month is regarded as commencing with 0). Landa states that the months of 20 days were called *uinal hun e'keh*; the San Francisco dictionary gives "*can uinal, ochenta dias*," and *hun uin'kehe* and *ho uin'kehe* for 20 and 100 days ago. One suspects that Landa's *hun e'keh* may be a corruption of a word incorporating the past time *he* (more correctly *he'*) suffix. *Uinal* is used by epigraphers for any period of 20 days, but principally for the span of 20 days,

running from Imix to Ahau, which forms part of the IS. Here it is a true division of the 260-day cycle.

The Maya were extremely precise in their calendrical nomenclature. It does not therefore seem probable that they would use a single term for any period of 20 days, but rather would have one name for the divisions of the sacred almanac, running from Imix to Ahau, and another for the "months."

The word *uinal* appears to be connected with *uinic*, "man," a root used in most Maya dialects for 20. Among the Jacalteca the word *xahau*, "moon," is used for the period of 20 days from the year bearer to the return of the same day name, which is roughly the equivalent of the month; we are not informed whether the same term is used for the 20 days from Imix to Ahau. The use of the moon's name for a period of 20 days is in agreement with hieroglyphic material of the Initial Series Period, for the moon glyph frequently represents 20 days (p. 167). The Pokoman dictionary of Friar Moran lists *hun uinak* as 20 days. In this case *uinak* definitely has the original meaning of man.

RANGE OF 260-DAY CYCLE

Beyond the Maya area the use of the 260-day almanac extended at least as far north as Hidalgo. The twenty day names are reported for the Aztec and neighboring peoples in and around the Valley of Mexico, the Matlatzinca, the Zapotec, the Otomi, and a people of Mezquitlan. There is an incomplete list from the Mixtec, and from the proveniences of codices it is known that the almanac was current among the Tlapanec and the Cuicatec. Mention of day names in historical codices adds the Toltec and various peoples in the region of Puebla to the list. Calendrical names of gods and places allow such people as the Totonac and Mazatec to be ranked as users of the almanac. As the Middle American year of 18 months and five extra days is based on a round of 20 days, we can be fairly certain that users of that type of calendar also had the 260-day calendar. Groups reported as using this calendar include the Chiapanec, the Chinantec, and the Tarascan. Taking into account the distribution of monuments carved with day signs, it becomes virtually certain that the almanac was in use in all Mexico south of latitude 21°. It has not been reported from the Huastec or Zoque, but one can feel sure that it was used by those peoples. The evidence of stelae assures us that it was an important feature of La Venta culture.

East and south of the Maya area the almanac was used by the Pipil and Mexican-speaking Nicaraos, but it was probably brought to those regions at a relatively late period from Mexico. An unnamed group in Honduras used the 18-month pattern.

I know of no evidence as to where in this large area the almanac originated, save that some of the fauna which give their names to days in some of the almanacs are inhabitants of the *tierra caliente*, as noted by Hans Gadow. My guess would be that the first development took place somewhere in an area extending from slightly west of the Isthmus of Tehuantepec to the Golfo Dulce, a region which would include the Maya, the Zapotec, and the builders of La Venta culture. It would also seem probable that the almanac was in use before the Maya fully developed those characteristics which differentiate their culture from those of their neighbors.

ORIGIN OF 260-DAY CYCLE

The choice of the number 260 has given rise to much speculation. It has been suggested that the number was chosen because it approximates the period of human pregnancy, but that is not a very happy explanation because there is no logical reason why the period of pregnancy should be considered in establishing a divinatory almanac. Moreover, it is probable that the 260-day almanac evolved before the exact length of gestation was known, for one must be able to count days before such a reckoning can be made. Furthermore, once the biological facts of pregnancy were known, it should have been simple to get a closer estimate of its duration than 260 days. It has also been suggested that the period derives from nine lunar months each of 29 days, although why the Maya should have regarded the lunar month as of 29 days is not clear, and even at that one has to reckon one lunation as of 28 days.

A better explanation is that offered by Mrs. Nuttall (1928), and recently supported by Merrill (1945). According to this thesis the 260 days represent the interval each year between the passages of the sun across the zenith. In the approximate latitude of $14^{\circ} 30'$, which passes a little south of Copan through Amatitlan to Retalhuleu, the sun crosses the zenith on April 30, and is north of it at midday until August 13, when it is again at the zenith on its passage southward. The period that the sun is north of the zenith at midday is 105 days; it is south of it for 260 days.

There are serious drawbacks to this thesis. Were the interval from sun overhead to sun overhead 260 days in much of the area in which the sacred almanac was in use, the explanation would be very logical, but the interval varies from about 260 to about 311 days in that area. One must assume then that the cycle of 260 days originated on the periphery of the area in which it was current, and that, spreading northward and westward, it was eagerly adopted by peoples for whom it had no solar significance. For example, the cycle was appropriated

by the inhabitants of the Valley of Mexico, although there the interval it was supposed to commemorate was about 291 days. In Meztitlan (approximate latitude 21°), the most northern outpost from which the 260-day almanac is reported, the interval was about 311 days, and it could not have been much less for the Otomi, also users of the almanac.

Furthermore, had the 260-day period a zenith-to-zenith significance, surely there would have been a complementary period of 105 days to maintain a correspondence with the solar phenomena. Repetition without that intervening period immediately breaks all contact with the zenith-to-zenith period.

There is, moreover, absolutely no evidence that the 260-day cycle originated in the vicinity of Copan or anywhere along latitude $14^{\circ} 30'$, which is on the periphery of the area it covered. It might equally well, so far as our present knowledge goes, have been a Zapotec, Mixtec, or La Venta invention, or even have been developed by the Mazatec or Totonac. If we assume that it was a Maya invention, there is no evidence, apart from the zenith-to-zenith interval in that area, that the calendar originated at Copan. The earliest known date at Copan is about 100 years later than Stela 9, Uaxactun, and later still than the Leiden plaque, which certainly was not carved at Copan.

At first sight the coincidence between the length of the zenith-to-zenith interval and the 260 days of the sacred almanac appears very striking, but one must remember that the same explanation would cover many periods of varying length. There are approximately 70 intervals from zenith to zenith of less than a year, in the area in which the sacred almanac was used (70-105, 260-95 days). Accordingly the fact that one of these 70 coincides with the length of the sacred almanac is not so very remarkable.

Merrill carries the argument a step farther, suggesting that the start of the Maya year was made to coincide with sun at the zenith on August 14. In the amended Goodman-Thompson correlation (App. VI) the formal base of the LC, the date 13.0.0.0.0 4 Ahau 8 Cumku actually falls on August 10, but that presumably is coincidence. When the LC was invented, it is very doubtful that the Maya could have calculated backwards some 3000 years with an error of only four days. Furthermore, the logical thing in that case would have been to reach a day 13 Ahau (the end of the 260-day cycle) as the end of the 13 cycles which preceded the present era. Then the present era would, like the 260-day cycle, have started with 1 Imix.

The same argument holds good if, as Merrill supposes, the 260-day interval started with the first day of Pop. That was the day 9 Etz'nab, not 1 Imix. As a matter of

fact, there is some evidence that the Maya regarded that part of the year lying between 1 Pop and the last day of Mac as forming a sort of compartment of 260 days at the start of the year (p. 113), but there is also some evidence that there may have been a balancing compartment of 260 days at the end of the year, stretching from the end of Zec to the end of Cumku.

Whatever may be the explanation of the origin of this cycle of 260 days, I think it is very unlikely that it arose from the fact that the interval from sun overhead to sun overhead happens to be 260 days at about latitude 14° 30'. That is not to say that the Maya did not pay attention to that solar phenomenon.

A number of years ago I suggested that the cycle of 260 days perhaps had developed in a rather haphazard way from two counts, one of 20, the other of 13 (Thompson, 1931, pp. 349-53). The Maya used a vigesimal system, and it was therefore natural for days to be grouped in 20's. The vigesimal system was also used by nearly all the other peoples of Middle America, and we have seen that there is ample evidence that the 20 days are really 20 gods, each one of whom ruled over his day.

There was a general belief in Middle America in the existence of 13 heavens (arranged one above the other or in a stepped pattern of seven layers with two compartments on six levels and a single compartment at the top) and in 13 gods of the heavens. The Maya account of the creation in Chumayel speaks of the struggle of the 13 gods against the 9 gods, and although the fact is not actually stated, there can be little doubt that this represented a fight between the 13 celestial deities and the 9 gods of the underworld. In the same passage there is mention of the thirteenth heaven or celestial layer.

The nine gods of the underworld ruled the nights; the 13 sky gods presumably ruled the days. An arrangement of this nature existed in central Mexico, for a series of 13 gods of the days, which forms a re-entering cycle, accompanies the day signs in Bourbon and in the Tonalamatl of the Aubin collection. The nine lords of the underworld similarly accompany the days.

This series of 13 gods of the days appears to have been of great antiquity, for if, as is almost certainly the case, the days from Caban to Muluc represent the gods whose heads stand for the numbers 1 to 13, it would seem that the concept of the 13 gods was older than the 20 day signs. In that case there was originally a cycle of 13 days each ruled by its own god. Then the 13 days were increased to 20 to conform to the vigesimal system, by the addition of seven more gods. Yet the old series of 13 was not dropped, but continued to function at the same time as the new series.

From there it would not have been a great step to re-

place the gods of the original cycle of 13 with the numerical positions they held in the sequence. The old gods were not forgotten, as the head variants of the numbers show, nor were the associations of the gods lost. Ten, for instance, continued to be unlucky because it corresponded to the death god. In fact, the association of the 13 numbers with gods still survives, for Lincoln writes that among the Ixil, "The 13 numbers and the 20 day names are both regarded as sacred beings or deities who are worshipped and petitioned in prayer. The 13 numbers with their days are referred to as the thirteen kings."

Perhaps a memory of this expansion of the series of 13 days to 20 is contained in a sentence in Chumayel describing the birth of the period of 20 days—*Oxlahun tuc, uuc tuc, hun*. This Roys (1933, p. 118) translates as "Thirteen entities, seven entities, one." *Tuc* means something piled up; Roys, in a footnote, expresses his opinion that this refers to the fact that the 20-day period comprises a series of 13 days and a remainder of seven.

The main objection to this explanation of the origin of the sacred almanac is the absence of complete proof that the 13 celestial gods gave rise to the days, and not vice versa. If one could be certain that the days from Caban to Muluc were the same as the heads for the numbers 1 to 13, one could be reasonably certain that the concept of 13 gods was earlier than the 13 gods of the days. I myself regard the evidence in favor of the identity of the gods of the numbers with the gods of that sequence of days as overwhelming.

RITUALISTIC AND DIVINATORY DIVISIONS OF THE SACRED ALMANAC

The Maya, like the other peoples of Middle America, associated periods of time with the world directions. There were subdivisions of the period of 260 days with ritualistic connotations, and of these the most important were the year bearers and burner periods, each of which involved quartering that cycle. The manner in which the year bearers functioned is described in Chapter 4.

The details of the burner period are somewhat obscure, but of its importance in Maya ritual there can be no doubt. It is mentioned in Chumayel, Tizimin, Kaua, and Mani, and Landa describes one of the ceremonies although he was unaware of its context in the cycle of 260 days. The burner ceremony was first made known through the Pio Perez (1843) paraphrase of a Maya year 1 Kan. This calendar contains information on good and bad days, and days suitable for various activities.

Opposite the days 3 Chicchan, 3 Oc, 3 Men, and 3 Ahau are the words "*u ch'a kaq ahuc*," translated as "the burner takes the fire" or "the burner handles the fire."

Following 10 Chicchan, 10 Oc, 10 Men, and 10 Ahau is

the sentence "*u hoppol u kak ahtoc*," "the fire of the burner begins." Elsewhere *hopol* replaces *hoppol*. Roys, who remarks that either word fits the context, translates this as "the fire of the burner flares up."

With the days 4 Chicchan, 4 Oc, 4 Men, and 4 Ahau is the statement "*yalcab u kak ahtoc*" which J. L. Stephens translates from the Spanish of Pio Perez as "the burner gives the fire scope." Long (1923), who has made an invaluable study of the burner period, proposes the translation "the fire of the burner runs." Roys points out that the more reliable Tizimin gives *yal kaba*, and that version would mean "the declared name of the burner."

Opposite the days 11 Chicchan, 11 Oc, 11 Men, and 11 Ahau is written "*u tup kak ahtoc*," which is translated as "the burner extinguishes the fire." Similar entries occur in the Maya year which starts on page 41 of Tizimin.

On page 38 of Tizimin is a passage which reads:

The record of the burners which are in the uinal. There are only four of them. There is 4 Chicchan: 10 Chicchan takes the fire; 11 Chicchan puts out the fire. The bearer of the uinal to the east. There is 4 Oc: 10 Oc takes the fire; 11 Oc puts out his fire. The bearer of the uinal to the north. There is 4 Men: 10 Men takes the fire; 11 Men puts out the fire. The bearer of the uinal to the west. There is 4 Ahau: 10 Ahau takes the fire; 11 Ahau puts out the fire. The bearer of the uinal to the south.

This is an unpublished translation by Roys incorporating minor amendments suggested by me. The omission of the days with coefficients of three is clearly due to carelessness. The intervals from 3 Chicchan to 10 Chicchan, to 4 Chicchan, to 11 Chicchan, to 3 Oc are 20, 20, 20, and 5 days. Thus this burner period divides the sacred almanac into four quarters, each of 65's, and each associated with a world direction. The four burners, 4 Chicchan, 4 Oc, 4 Men, and 4 Ahau, are called the four Ahaus, that is to say, the four chiefs or four rulers. In each quarter the burner takes the fire, begins the fire, lets it run (or names it), and extinguishes it.

The four burners are represented on Dresden 42-45 (fig. 61,1-4). Each of the four divisions of the sacred almanac is accorded a picture, and beneath the initial days of each division are the corresponding directions. The sequence is: 4 Ahau, south; 4 Chicchan, east; 4 Oc, north; 4 Men, west. There is, therefore, complete agreement with Tizimin in the assignment of directions to burners. Each period of 65 days is again divided, but not in conformity with the subdivisions of each burner period. The pictures show God B. With 4 Ahau he is opposite the seated god of maize; with 4 Chicchan he paddles a

canoe; with 4 Oc he is opposite an unidentified god, and there is a stylized fish between them; with 4 Men he is seated astride a dog (?) and holds in each hand an object generally identified as a flaming torch. Only the last suggests any connection with the act of letting the fire run. However, in view of the statement by Landa that the burner ceremony, as described by him, was held to assure rainfall, it may be significant that God B, who is a rain deity, appears in every picture. A specialized Oc sign above a bundle and with what may be a fire prefix appears with each picture. It may be the burner glyph, particularly since the dog, whose glyph is Oc, is closely associated with fire (p. 79). This is one of the two almanacs in Dresden divided into sections of 65 days, the second being on page 29. The day glyphs in the latter almanac are badly damaged, although their coefficients are clearly 11. Förstemann reads the day signs as Lamat, Ben, Etz'nab, and Akbal, but details cannot be made out in the edition of 1880. The possibility that they are the burner group 11 Ahau, 11 Chicchan, 11 Oc, and 11 Men is worth bearing in mind.

Landa describes a ceremony which he calls *tuppkak*, and which, as Long points out, must be the same as the *u tup kak ah toc*. A large fire was lit, and into that were cast the hearts of sacrificed animals, or, if those were not available, copal formed in their shapes. When the hearts were burned the assistant priests, called Chacs, extinguished the fire by pouring water from their jugs. Landa says the ceremony took place in Mac, and was to insure copious rains, and that it was also held in Pax.

Long has shown that in Landa's typical year, which began with 12 Kan, the burner would extinguish his fire on 11 Oc 7 Mac and 11 Men 12 Pax, so that there is agreement in name and dates of the ceremony. Landa does not mention the other three occasions on which the ceremony would fall during the year, but Long has several plausible explanations for that omission. One is that Landa's description of the ceremonies is very brief and surely incomplete; the other, that the burner period indicated days on which the ceremonies might be held, not days on which it must be held.

Actually, the two occurrences mentioned by Landa fell in the dry season, one late in March, the other on June 2. The first was at the height of the dry season, the other just at the time when the rains were expected; whereas the remaining four occurrences fell in the rainy season. One would hardly expect the Maya to indulge in sympathetic magic imitating the fall of rain, when day after day water was cascading earthward.

The author of the *Relación de Valladolid* describes a fire-walking ceremony, in which a pile of wood, more than 25 feet long, as much wide, and taller than a man,

was prepared. This was set alight with appropriate ceremonies, and when the whole was turned to hot embers it was smoothed out. The chief priest sprinkled balche wine on the embers by means of a hyssop, made of the tails of rattlers and other poisonous snakes. All four sides

each subdivision are indicated by black numbers to represent the number of days to be counted forward and red numbers to declare the coefficient of the day reached. Thus a typical almanac (Dresden 6 and 7) appears as follows:

TWO LINES OF GLYPHS ACROSS TOP. TOTAL 16,
MAKING FOUR GLYPHS FOR EACH HORIZONTAL DIVISION.

1 Chuen	17	5	19	11	6	4	10	1
	(black)	(red)	(black)	(red)	(black)	(red)	(black)	(red)
Akbal								
Men								
Manik								
Cauac								

WRITTEN IN FULL THIS WOULD HAVE BEEN AS FOLLOWS:

1 Chuen	+ 17 =	5 Lamat	+ 19 =	11 Manik	+ 6 =	4 Ben	+ 10 =
1 Akbal	17	5 Ahau	19	11 Cauac	6	4 Chicchan	10
1 Men	17	5 Eb	19	11 Chuen	6	4 Caban	10
1 Manik	17	5 Kan	19	11 Akbal	6	4 Muluc	10
1 Cauac	17	5 Cib	19	11 Men	6	4 Imix	10

of the fire having been sprinkled in this way, the high priest removed his sandals, and walked across the embers unharmed, followed by the rest of the procession. The ceremony is said to have been held at various times of the year. Fire walking, as a purificatory rite, is still practiced by the Tzotzil.

Landa also mentions this fire-walking ceremony, but says that it was held during years which had Cauac as the year bearer. Here, I think, the Valladolid *relación* is more reliable, for it appears not unlikely that this is the chief ceremony of the burners, on 4 Ahau, 4 Chicchan, 4 Oc, and 4 Men, when the fire of the burner spreads.

There may even be an explanation why Landa associates the ceremony with a Cauac year. Actually, the ceremonies he describes are for a year commencing with 2 Cauac, in which the following day, 3 Ahau, would start the 65-day period of the 4 Ahau burner, the most important of all. His informant may well have told him that on the day after the 2 Cauac new year, the ceremonies leading to the fire-walking climax began.

No special glyphs for the burner days have as yet been recognized, with the possible exception of the Oc glyph with special affixes, which occurs in Dresden, but the ceremony was obviously of considerable importance, perhaps the greatest connected with the 260-day almanac.

Various divisions of the sacred almanac occupy many pages of Dresden and Madrid; most commonly the 260 days are divided into five sections of 52 days each. These are in many, probably in all, cases the tools of divination, recording days favorable and unfavorable for various activities, but the exact manner in which these divinatory almanacs functioned is not known. The subdivisions of 52 (rarely of 65) days are in turn partitioned into irregular intervals. Usually, the glyphs of only the initial date of each subdivision are drawn. The dates within

The days of the subdivisional compartments presumably were suppressed in order to save space, since the priest making the divination could calculate them without much trouble.

Thus, reading downwards, one gets the five subdivisions, each of 52 days; reading horizontally one reaches the irregularly spaced intervals within each subdivision. Below each interval there is usually the picture of a god, presumably the deity who ruled those dates, and above the numbers are the explanatory glyphs, usually four. In the almanac under discussion the days 5 Lamat, 5 Ahau, 5 Eb, 5 Kan, and 5 Cib are ruled by the death god. The next division 11 Manik, 11 Cauac, etc. was under God D. The third was ruled by the Moan god. The last deity who held sway on the days which form the last column, but which are painted at the start of the almanac, is probably Schellhas' God H. Several almanacs are illustrated (figs. 61-64) and briefly described in the captions.

Rules, if such exist, which govern the choice of the various deities pictured, have not been discovered. The kind of divination for which an almanac was devised is fairly obvious in some cases, such as in those almanacs which deal with apiary, but in this particular almanac no clue as to its purpose has been found.

These divinatory almanacs, which clearly played an extremely important part in Maya culture, will be discussed in more detail in a subsequent chapter.

STARTING POINT OF 260-DAY CYCLE

Landa states that the 260-day cycle commenced with 1 Imix. There are no grounds for doubting that the cycle started with the day Imix, and small reason for not supposing that the accompanying number was one. The Mexican almanac began with 1 Cipactli, as the "weeks" given by all early authorities commence with that day.

The incomplete cycle of 260 days which stretches across Madrid 13-18 starts with the day Imix, but no numbers are given; Nuñez de la Vega says that Imox was the head of the count, and Ximenez opens his 20 days with Imox, and compares it to New Year's day; La Farge (1947, p. 179) notes that at Santa Eulalia he received a very strong impression that Imox led the list.

Full confirmation for Landa's statement, however, is to be found on Madrid 75 and 76, where the scheme of the calendar is laid out as the symbol for completion, together with world directions and their presiding deities. The day 1 Imix stands at the start of the count to the east, which is the direction with which Maya counting normally commenced. The fact that 13 Ahau, the day preceding 1 Imix, was regarded as the last day of the count of katuns is further evidence that the almanac started with 1 Imix, for if the round of katuns ended with 13 Ahau, the first day of the new round would be 1 Imix, the opening day of Katun 11 Ahau. According to Chumayel the (last?) creation occurred in a Katun 11 Ahau. The world may, therefore, have been regarded as having been inaugurated on 1 Imix, the first day of that katun.

On Madrid 65-73 the whole 260 days, complete with their coefficients, are again given. Here also the count leads off with 1 Imix, on page 65a, and terminates with 13 Ahau on page 73b. The evidence is overwhelming that the 260-day cycle started with 1 Imix.

The moment when each day of the sacred almanac started is a matter not easily settled. Among the present-day Maya of Jacaltenango the day commences at sunset. The same is true of the Ixil days, according to Lincoln. Goubaud, in his account of the ceremony held at Momostenango, at 8 Batz (p. 94), describes the ceremonies as having started at sunset of August 23, 1930, and continuing all through the day and night of August 24. The ceremonies accordingly lasted 36 hours.

A peculiar custom existed in Yucatan at the time of the Spanish conquest, whereby each katun was "the guest" of the preceding katun for the second half of the latter's reign, sharing its power. A katun, accordingly, had power for 30 tuns. For the first 10, it shared power with the preceding katun, then for the next 10, which formed the first half of its true length, it ruled alone. For the last 10 it shared its power with the next katun in the sequence (p. 204).

It has seemed to me not improbable that a similar arrangement may have existed for all periods of time, including the day. The great importance which the Maya give to the eve of Christian festivals might be a survival of this practice, but the idea also is European, and so this custom may not indicate Maya influence. Tax informs

me that he feels fairly sure that there is no idea that the day starts in the afternoon or evening of the previous day among the Maya groups of the midwest highlands which he has studied. These, however, have lost the old Maya calendar in its entirety.

The Aztec day, apparently, ran from midnight to midnight; for Yucatan there is no information. Had the Yucatecan day started at sunset, it is strange that Landa fails to mention the fact, seeing that he obviously had a first-rate informant on the calendar, probably Gaspar Antonio Chi, and although he did not comprehend every detail of his information, such a straightforward fact as that the day started at sunset could hardly have led to confusion. The evidence is negative, but the failure of Landa or any other writer on Yucatan to mention a matter which to them would have seemed very peculiar, viz. that the day commenced at nightfall, tends to support the view that the Yucatecan day started at sunrise, although it might have been the "guest" of the preceding day during the night. On the other hand, Redfield reports that in the Yucatec village of Chan Kom the appropriate name for a child born after noon is that of the saint of the following day. If this has a bearing on the subject, it would indicate that the Yucatec day ran from noon to noon.

There is some glyphic evidence that during the Initial Series Period the day ran from sunrise to sunrise (p. 174), and while this is not conclusive, it is sufficient to cause one to hesitate before assuming that the day's span was unquestionably from sunset to sunset. I regard the question as unsettled, and have a slight preference for the view that during the Initial Series Period the rising of the sun heralded the new day (see also p. 177).

The days on which the years started had great influence on the years which they initiated. Because of the construction of the calendar only four of the 20 day names could fall on the first day of the year. They were known as the year bearers, and they are discussed in Chapter 4.

Every endeavor was made by the Maya to adjust all their time periods, such as the synodical revolutions of the planets and lunar cycles, to the 260-day cycle so that they could establish equations, e.g. 65 synodical revolutions of Venus uncorrected equaled 146 cycles of 260 days; 405 lunations equaled 46 cycles of 260 days. This subject will be discussed in later chapters.

So far as is known, the individual cycles of 260 days were not numbered or arranged in larger groupings, such as in 20's, 400's, and 8000's.

SUMMARY

The cycle of 260 days is the core of the Maya calendar. It is a divinatory and sacred almanac which bears no

known relation to any celestial phenomenon. It consists of 20 day names combined with the numbers 1-13. Not until the 260 combinations of names and numbers have been completed does the cycle start again. It repeats through all eternity regardless of the positions of sun, moon, and stars.

The 20 days were—and still are—regarded as gods, and the accompanying numbers hold similar rank. The glyphs for these day names appear to be stylized portraits of those gods or highly conventionalized pictures of attributes or insignia of those deities. The numbers 1-13 are sometimes personalized as the heads of the gods which they represent. It is almost certain that a sequence of 13 of the day names running from Caban to Muluc represent in the same order the identical series of gods ruling the numbers 1-13.

The individual combinations of day names and numbers wielded enormous influence over the daily life of the Maya from prince of the church to humble peasant. The luck of each day name and number decided when crops should be planted, when wars should be started, whether individuals would be suitably mated, and when the marriage should take place, and, indeed, the aspects

of the days dominated practically every activity, whether of the group or of the individual. A rigid system of predestination encompassed the individual because the influences of the day of his birth molded his entire life; there is even some evidence that these same controls swayed the course of history.

The cycle of 260 days was not used by itself in the counting of time, and, so far as is known, these cycles were not grouped in large units, such as by 20's, 400's, and 8000's. On the other hand, all other Maya cycles, whether of vague years (365 days), approximate years (tuns), synodical revolutions of the planets, or lunations, were coordinated with the sacred almanac by utilizing the lowest common multiples of the 260-day period and the astronomical cycle.

In the Maya fane this cycle was the sanctuary, to the glory of which the subordinate transepts of solar and lunar counts, the nave of the tun reckoning, and the crypt of the lords of the nights were integrated in one grand fabric. From its 20 choirstalls, with their changing occupants, radiated the essence of Maya life through the temple, and, beyond its doors, to every corner of Maya land.