

a head known to stand for 13 (Fig. 15 *a*). This face not only has the curved tooth like the Uinal head, but on the high upper portion of the head is displayed the ordinary Uinal sign. Again on the Palace steps at Palenque C 4 is another head for 13,* in which the curved tooth is still more fully developed, and on the high upper portion of the head is an ornamental headdress (Fig. 15 *c*). Nothing definite can be distinguished above the eye in step K 18 *a*, but the distance is in itself significant. However, these indications are not sufficient to identify the Katun number, and we pass it for the present as unknown.

The Tun number 19 *a* is also represented by a face, and this too is far from being clear. There are certain markings near the mouth that look like the dots that serve to distinguish the 9 face, but as they are very faint and ambiguous they cannot be relied upon. There seems to be a marked resemblance between this face and that in step A 4 *a*, and this offers another suggestion in support of its being a sign for 9.

A 4 *b* consists of an extended hand with thumb pointing upward, supporting a head. The head in this case is very much like one which occurs often in the inscriptions and ornamental carvings, and under the name of the head of the "long-nosed god" and

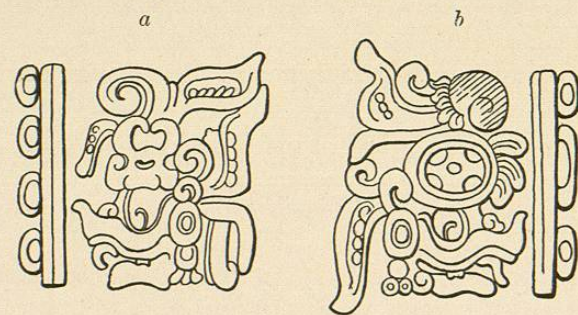


FIG. 16. — FROM STELA D AT COPAN.

other appellations has been identified with one occurring frequently in the codices. In the sculptures it seems to have two forms or variants. One of these is always distinguished by the square cross on the forehead, and when this form has a known number attached, that number is always 7 (Fig. 17).

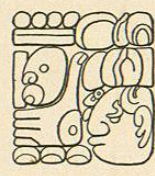


FIG. 17. — STELA 1, COPAN, EAST B 4.

16 *b*). The other form, the one which resembles the face in A 4 *b*, is without the cross, and when it has a known number associated with it, that number is always 9 (Fig. 16 *a*).† Moreover the outstretched hand sometimes occurs in the inscriptions supporting a head which has been called the North Star; and wherever I have seen this combination, it takes the number 9 (Fig. 17).‡

Now in step A 4 *a* is this particular form of hand supporting a head very much like one which, so far as our experience goes, always takes the number 9 when it takes

* Goodman has given the reading of this date as 55. 3. 18. 12. 15. 12. 8 Eb 15 Pop; but I think there can be no doubt that it reads 54. 9. 8. 9. 13. 0. 8 Ahau 13 Pop, as Seler has stated.

† For examples of this form see especially Copan, Stela P, north A 9. Altar R, 12. Stela D, north A 6. Stela B, west side, and Step in Temple 11, 9; also Palenque, Temple of the Cross under left figure, and Temple of the Sun to right of shield. For examples of the other form see Copan, Altar T, south side 1 *a*. Stela D, east side, and Temple of the Sun, Palenque, to left of shield.

Since this Memoir went to press I have seen *Die Alten Ansiedelungen von Chaculá* by Dr. Seler of Berlin University. In this work the author calls attention to the association of 9 and 7 with the two variants of this face. He also refers to the *Zeitschrift für Ethnologie* for statements in the same connection. When this paper was written, I was not aware of Dr. Seler's studies in this connection. He regards the face shown in Fig. 16 as the face of the Watergod, and, following Förstemann, he calls the sign seen on the forehead in Fig. 16 *b*, the symbol for the planet Venus.

‡ See Copan, Stela I, east A 5 and north B 7. Stela 1 B 4 and Hieroglyphic Stairway, Plate XII, E 2.

any number. If therefore the face in this case represents a number, we have strong reasons for believing that number to be 9. This of course is far from conclusive regarding the value of the face in K 19 *a*, for the identity of the two faces cannot be proved. We must pass this number as unknown for the present. It may be worth while in this connection to compare Plate XIII, R. Here is seen a similar combination without any numeral, but curiously enough it is preceded by the last of the supplementary series with the number 9.

The Uinal and Kin signs, as we have seen, are crowded into the last square on the step, and their numbers are represented by the bar and dot method. The Uinal number is 14, and the kin number is 9.

If the inscription, after passing step H, is to be read down the left side of the altar, and continued on the right, or vice versa, for that matter, we should expect to find the day sign in L 16; but there is nothing at all in this glyph that looks like a day sign. If, on the other hand, the inscription is to be read from one end of each step to the other, down to the bottom step, then we must look for the day sign in L 1, and sure enough this glyph has every characteristic of a day sign. The head is not at all familiar as a day sign, although the same or a similar head is common enough in the inscriptions where its meaning is not known.

The day number is 12, and the day itself can be no other than Muluc, since the Kin number is 9.

The next thing to do is to find the month sign, which is not so easy, because the month signs are not so clearly distinguished by their form as the day signs, nor is the position of the month sign relative to the day sign by any means constant. Two things are recognized, however, as determining the position of the month sign in the initial dates. Either it comes immediately after the day sign, or else it follows the supplementary series, consisting of from six to nine glyphs. In this position it can be recognized, in the great majority of cases at least, by the last of the supplementary series, the form of which is pretty constant.*

L 2 is plainly not the month glyph, and passing over the succeeding glyphs, we recognize in 18 *b* the last of the supplementary series, as may be seen by comparing it with F 8 *b*. Following it in 19 *a* we should ordinarily expect to find the month glyph. What we find, however, is a glyph which, though not at all clear, has little resemblance to a month sign. It perhaps looks a little like Kayab, but the likeness is remote, and moreover no numeral appears in connection with it. We know that the month sign we are in search of must have one of the numbers 2, 7, 12, or 17 attending it. It must be concluded that 19 *a* is not the month sign. The last glyph on the step has the appearance of a month sign, but the sign for the month is never found so far removed from the day sign.

Coming back to our starting-point, we find in 3 *b* the sign for the month Muan, attended by a face, 3 *a*. This must be the sign we are in search of, and if so the face 3 *a* represents either 2, 7, 12, or 17. It will be necessary to determine the value of this numeral before proceeding any farther, and on this everything will now depend. The jaw is not a skeleton jaw, and therefore the two higher numbers are eliminated, leaving 2 and 7 to be decided between.

I know of only one face sign for 2. It is in the initial series on Lintel 2 of Piedras Negras, and Bowditch has shown its value to be 2. A comparison of this

* See statement on page 5 of *Notes*, by Charles P. Bowditch, on the report of Teobert Maler in *Memoirs Peabody Museum*, Vol. II, No. 1. Both d. and m. may follow supp. s., v. St. 1 and 10, Cop.

glyph and L 3 a shows no similarity between them, and this leads us to the conclusion that the number must be 7.*

The results obtained by inspection from the initial series beginning on K 16, contained in the preceding paragraphs, may be summed up as follows:—

- Great Cycle (number unknown).
- Cycle (number unknown).
- Katun (number unknown, but indications point to 13).
- Tun (number unknown, but indications point to 9).
- Uinal 14.
- Kin 9.
- 12 Muluc 7 Muan.

Counting back 14 Uinals and 9 Kins from 12 Muluc 7 Muan, we come to 9 Ahau 3 Uayeb, the beginning of the Tun.

Now we shall have to make the assumption that the Great Cycle is the one that we have been calling the 54th. The justification for doing this consists in the knowledge that all known dates at Copan, and almost all those in the other localities where similar inscriptions are found, begin in this way. This is the only assumption made. We look first in the 9th Cycle of 54th Great Cycle, because we are accustomed to find most of the dates in this place. The date 9 Ahau 3 Uayeb is the beginning day of the beginning Tun of the 6th Katun. This is manifestly not the date wanted, for it seems clear that the Tun number is not zero. The face sign for 0 has a hand on the lower jaw (Fig. 18). The Katun number is not like 6. All the known face signs for 6 have the hatchet eye, and this would seem to be a constant distinguishing feature of the numeral (Fig. 19).



FIG. 18. — STELA 1, COPAN, EAST A 4.



FIG. 19. — TEMPLE OF THE SUN, A 7.

The next place where the date 9 Ahau 3 Uayeb occurs is in the 11th Cycle, and it begins the 9th Tun of the 13th Katun.

The date occurs altogether five times in the 54th Great Cycle:—

- 54. 2. 3. 13. 0. 0
- 54. 4. 11. 2. 0. 0
- 54. 6. 18. 11. 0. 0
- 54. 9. 6. 0. 0. 0
- 54. 11. 13. 9. 0. 0

The last of these is the only one that does not seem to be contradicted by the Katun and Tun numerals, and moreover it corresponds exactly with what was observed in our inspection of these numerals, and we may without much hesitation write down the date as:—

54. 11. 13. 9. 14. 9 12 Muluc 7 Muan.

* Compare Quirigua, Stela D, east A 7 (numeral of the day Ahau).

In Fig. 15 is shown a drawing of 18 a together with drawings of the face signs for 13 in the Temple of the Sun inscription, and on the Palace steps.

The position of the month glyph in this initial date, though unusual, is not singular. The inscription in the Temple of the Sun at Palenque has the month glyph in the same position; that is to say, the month sign in both of these inscriptions comes in the second place after the day sign.

The Kin number in K 3 b is clearly 10, and therefore if the period, whatever it is, expressed in this glyph and the next be added to or subtracted from the initial date on step K, the resulting day will be Cauac. This may be of use in identifying the day sign in K 5 b. The cast shows the numeral above this day sign to be either 7 or 8, probably the latter. If we suppose the period in K 3 b-4 to read—

14. 7. 9. 10

which is not unlikely (see page 25), and if we subtract this period from Date IV, we come to a date in which the day numeral corresponds to that seen in K 5 b, and the month to that in L 20 b.

54. 11. 13. 9. 14. 9 12 Muluc 7 Muan
 14. 7. 9. 10
 54. 10. 19. 2. 4. 19 8 Cauac 12 Zotz (Date IV a)

The value of the numeral with the month Zotz in L 20, is not revealed by inspection.

On Plate V is another fragment of the inscription. This fragment begins abruptly in the middle of a step. It will be remembered that these steps had fallen in a body, and it should be said that while their relative positions were preserved, yet when only a portion of a step remained, it was not always possible to tell the exact position of that portion in the step itself.

There is nothing, however, with the exception of the first step, which is doubtful, that is not approximately in its right position. To make this clear, it will be best to take up each step separately.

Step A. Only the first block was found in this position; the others were found near the bottom of the slope among the debris. The first joint comes in the middle of the second glyph, and it is evident that this part of the restoration is all right. The second joint, however, falls between the halves of the fourth glyph, and it may be questioned whether these two blocks belong together. The third joint falls on the blank space between the fifth and sixth glyphs, and this also may be questioned. The fourth and last joint intersects the seventh glyph in such a way as to leave no doubt concerning this part of the restoration. It will be seen that from the middle of A 12 to the end of the step the glyphs may or may not belong in this position. They were photographed so because the blocks seemed to fit each other fairly well, and to fill up the space in the step.

Step B. These four blocks are shown as they were found, but it is impossible to say that they occupy their exact position in the step. This must be regarded as approximate.

Step C. In this case there is no doubt that the two portions of the step are in their proper positions.

Step D. This is especially an interesting step. The first part is in its right position, as is evident from the condition in which it was found. The third block, the one with the lower part of the figure and a portion of the next glyph were found among