

---

---

SMITHSONIAN INSTITUTION  
Bureau of American Ethnology  
Bulletin 157

---

Anthropological Papers, No. 48

**Some Manifestations of Water in Mesoamerican Art**

By ROBERT L. RANDS



## CONTENTS

	PAGE
Introduction.....	271
The better established occurrences of water.....	273
Types of associations.....	273
The Maya codices.....	277
The Mexican codices.....	280
Aztec and Teotihuacán murals, sculptures, and ceramics.....	285
Summary.....	291
The proposed identifications of water.....	292
Artistic approach to the identifications.....	292
Non-Maya murals, sculptures, and ceramics.....	293
Maya murals, sculptures, and ceramics.....	298
General considerations.....	298
Highest probability (A).....	302
Probability B: paraphernalia and secondary associations.....	315
Probability B: fang, tongue, or water (?).....	320
Artistic typology and miscellany.....	322
Water and the water lily.....	330
Conclusions.....	333
Appendix A. Nonartistic data and current reconstructions.....	342
Direct water associations: physiological data.....	342
Water from container.....	344
Water from mouth.....	348
Water from eye.....	348
Water from breast.....	350
Water from between legs.....	350
Water from body (pores?).....	350
Water from hand.....	352
Water from other object held in hand.....	354
Waterlike design from head.....	355
Glyph in water.....	355
Object in water.....	359
Tlaloc.....	359
Anthropomorphic Long-nosed God.....	359
Female water deity.....	359
Black god (M, B).....	360
Miscellaneous anthropomorphic figures.....	360
Frog.....	360
Serpent.....	361
Jaguar (ocelot).....	361
Bird.....	363
Miscellaneous animal.....	363
Serpentine-saurian monster.....	364
Detached rear head of monster.....	364
Other grotesque head, face.....	365

Appendix A. Nonartistic data and current reconstructions—Con.	PAGE
Death, misfortune, destruction.....	365
Water descending on surface water.....	365
Water descending on figure.....	366
The bending-over rainmaker.....	366
The sky monster and its affiliates.....	366
Balanced water and vegetation.....	367
Summary.....	367
Appendix B. Identifications of subject matter in Mesoamerican art.....	369
Appendix C. Notes on the tables.....	374
Appendix D. Notes on figure 16.....	384
Literature cited.....	386

## ILLUSTRATIONS

## PLATES

	FOLLOWING PAGE
72. Dresden Codex, page 74.....	394
73. <i>a</i> , Madrid Codex, page 30. <i>b</i> , Borgian Codex, page 28.....	394
74. <i>a</i> , Rios Codex, page 4. <i>b</i> , Aztec sculpture (Entry 1). <i>c</i> , Tres Zapotes, Monument C (Entry 21).....	394
75. <i>a</i> , Izapa, Stela 1 (Entry 16). <i>b</i> , Yaxchilan, Lintel 25 (Entry 55)....	394
76. <i>a</i> , Quintana Roo (Entry 62). <i>b</i> , <i>c</i> , Copán, Temple 22 (Entry 29). <i>d</i> , <i>e</i> , Copán, Temple 26 (Entry 30).....	394

## TEXT FIGURES

	PAGE
14. <i>a</i> , Laud 1. <i>b</i> , Mural scene at Tepantitla, Teotihuacán (Entry 4). <i>c</i> , Nuttall 19.....	284
15. <i>a-c</i> , La Ceiba (Entry 60). <i>d</i> , Monte Albán, Stela 11 (Entry 19). <i>e</i> , Chama (Entry 58).....	294
16. Interrelationship of representations.....	300
17. <i>a</i> , Palenque, House E (Entry 34, front head). <i>a'</i> , same, rear head., Piedras Negras, Stela 6, (Entry 40, front head). <i>b'</i> , same, rear head, <i>c</i> , Piedras Negras, Stela 14 (Entry 42, front head). <i>d</i> , Piedras Negras, Stela 11 (Entry 41, front head). <i>d'</i> , same, rear head.....	304
18. <i>a</i> , <i>b</i> , Palenque, Temple of the Cross (Entry 35). <i>c</i> , Palenque, Temple of the Sun (Entry 36). <i>d</i> , Yaxchilan, Stela 3 (Entry 51). <i>e</i> , Livingstone (reported provenience) (Entry 61).....	307
19. <i>a</i> , Yaxchilan, Stela 4 (Entry 52). <i>b</i> , Yaxchilan, Stela 7 (Entry 54). <i>c</i> , Yaxchilan, Stela 6 (Entry 53). <i>d</i> , Uluva Valley (Entry 65). <i>e</i> , Palenque, Temple of the Foliated Cross (Entry 37). <i>f</i> , Yaxchilan, Stela 1 (Entry 50). <i>g</i> , Copán, Stela D (Entry 26). <i>h</i> , Tikal, Temple IV. <i>i</i> , Copán, Stela H (Entry 27).....	308
20. <i>a</i> , Quirigua, Stela A (Entry 43). <i>b</i> , Quirigua, Stela C (Entry 44). <i>c</i> , Quirigua, Stela H (Entry 45). <i>d</i> , Finca Encanto (Entry 31). <i>e</i> , Yalloch (Entry 66).....	310
21. <i>a</i> , Quirigua, Zoomorph P (Entry 46b). <i>b</i> , Quirigua, Zoomorph P (Entry 46c). <i>c</i> , Chama (Entry 57).....	311
22. Quirigua, Zoomorph P. <i>a</i> , Entry 46d. <i>b</i> , Entry 46e. <i>c</i> , Entry 46f..	313

	PAGE
23. <i>a</i> , Palenque, House D. <i>b</i> , Palenque, Temple of the Sun (Entry 36). <i>c</i> , Nexapa (Entry 63). <i>d</i> , Tikal, Temple IV (Entry 48). <i>e</i> , Chama (Entry 59). <i>f</i> , Quirigua, Zoomorph P (Entry 46a). <i>g</i> , Quirigua, Zoomorph P (Entry 46g).....	317

SOURCES OF ILLUSTRATIONS\*

FIGURE 14. *b*, after Caso, 1942.

FIGURE 15. *d*, after Caso, 1928. *e*, after Dieseldorff.

FIGURE 17. *a*, *a'*, after Maudslay. *b-d'*, after Spinden, 1917.

FIGURE 18. *a-c*, after Maudslay. *d*, after Spinden, 1913. *e*, after Seler, 1902-  
23.

FIGURE 19. *b*, after Spinden, 1913. *e*, *g-i*, after Maudslay. *f*, after Pro-  
skouriakoff.

FIGURE 20. *c*, after Spinden, 1913. *e*, after Gordon and Mason.

FIGURE 21. *a*, *b*, after Maudslay.

FIGURE 22. *a-c*, after Maudslay.

FIGURE 23. *a*, *f*, *g*, after Maudslay. *b*, after Waldeck (in Maudslay). *c*, after  
Spinden, 1928 a.

PLATE 76. *b*, *d*, *e*, courtesy Carnegie Institution of Washington.

---

\*Date of publication is omitted if only one work by an author appears in Literature Cited.



## SOME MANIFESTATIONS OF WATER IN MESOAMERICAN ART <sup>1</sup>

By ROBERT L. RANDS

### INTRODUCTION

The aboriginal art of Mesoamerica was varied and rich in its portrayal of water. Closely related were the agricultural base of civilization and the generally heavy rainfall—necessary for the growth of crops, though at times too heavy—which played an important part in influencing the art. In view of the Mesoamerican practice of personifying natural forces it is not surprising that supernatural beings should repeatedly be delineated in the act of producing rain-water.

A great deal of scholarship has been directed toward the elucidation of certain Mesoamerican art motifs and religious concepts pertaining to rainfall. Commentators on the codices such as Seler (1902–23), Schellhas (1904), Förstemann (1906), and Tozzer and Allen (1910) have been particularly active in this, while Thompson (1950, 1951) has made the Maya hieroglyphs the primary focus of his detailed investigations of water symbolism. The present study can hope to contribute little toward a better understanding of aquatic motifs in the codices. Rather, conclusions which have been drawn from past studies of the codices form a springboard from which to attack the problems set forth in the present paper.

Broadly speaking, the aim of the present investigation is to extend the identification of falling water to certain motifs in the sculptural and ceramic art of Mesoamerica. Working from the known to the unknown, the commonly accepted depictions of water in the codices and, more rarely, murals, are made the basis for the identifications. When appearing to be applicable, modern folk tales and religious

<sup>1</sup> The writer wishes to express his appreciation for the advice, criticism, and encouragement given by numerous individuals: Tatiana Proskouriakoff and J. Eric S. Thompson, of the Department of Archaeology, Carnegie Institution of Washington; Ralph L. Roys, affiliate of the same Institution; Dr. Linton Satterthwaite, Jr., the University Museum, University of Pennsylvania; Dr. Gordon R. Willey, Peabody Museum of Archaeology and Ethnology, Harvard University; and Dr. Matthew W. Stirling, Bureau of American Ethnology. Extensive aid on the illustrations was given by Boyd Wettlaufer and the writer's wife, Barbara C. Rands.

beliefs, mythological passages from the historical sources, and ritual practices are used to bolster the interpretations.

Others have ventured into this siren's field of art interpretation. Von Winning (1947 a) for Central Mexican antiquities and Spinden (1913, 1928 b) for Maya sculpture may especially be mentioned as proponents of certain designs as falling water. Like the present writer, Thompson follows Spinden in making some highly important identifications on the Maya monuments (Spinden, 1913, figs. 84, 85; Thompson, 1950, fig. 44, nos. 1-3). These suggestions have not gone completely unchallenged, however. An identification of falling grain seems to be preferred, in certain representations, by Proskouriakoff (1950, fig. 13y-b', pp. 109, 132, 146). Other explanations might be adduced. The field is a complex one, fraught with dangers of many sorts. Once one commences tracking down motifs which have indubitable resemblance to known portrayals of water, artistic forms which are partially comparable or vaguely so come repeatedly to light. Soon, in the words of the poet, one sees "water, water, everywhere." It is hoped in the present paper to systematize the argument for the identification of water and, thereby, to review some of the methodological problems involved in artistic analyses of the present type.

By virtue of its subject matter, the present investigation inevitably touches upon a very distinct sort of problem. A recent series of papers has stressed the possibility of trans-Pacific contact between Southeast Asia and Mesoamerica (Heine-Geldern and Ekholm, 1951; Ekholm, 1950, 1953). One of the more important evidences cited is the striking correspondence in the depiction of the lotus or water lily in Maya and in Hindu-Buddhist sculpture. Recently, occurrences of the water lily in Maya art were traced by the present writer (Rands, 1953). This was not done for the purpose of drawing conclusions about the alleged Asiatic contact but to present data upon which these conclusions, or others pertaining to intersite connections within the Maya area, could in part be drawn. Among the correspondences which have been noted between the water lily in Indian and Mayan art are certain portions of the body with which the plant is arbitrarily shown—e.g., hand and mouth. Additional associations characterize the water lily in Maya art; thus, the flower grows from the head or eye, is intimately associated with the fish and jaguar, and so on.

The importance of these facts to the present study is simple enough. If the identifications of water in Maya art which will be made are substantially correct, these same associations, held by the water lily, occur repeatedly with the falling streams of water. Unless it can be shown that the same attributes are given water in Hindu-Buddhist

art, the possibility of convergence is considerably increased as an explanation for the similarity of the floral treatments in the two hemispheres. This is to say that in Maya art certain associations given the water lily may have been transferred from associations originally given to streams of rainwater. Even if the reverse is true, and the floral associations preceded the aquatic ones, a new dimension is introduced into the study of the water lily. It is one with which the proponents of trans-Pacific contact will have to reckon.

Three broad avenues of investigation, which appear to be of tangible significance, emerge from the attempt to identify water. These problems are: (1) To explore the details of Mesoamerican religion—the glyphs, deities, and mythic situations—with which water is apt to occur. This should provide added information on an important aspect of culture in Mesoamerica and, thereby, help to fill in the ethnographic picture of earlier times. The “conjunctive approach” of Taylor (1948) should be compared. (2) To note typological distributions and variations of the artistic forms in time and space. Historical insight should be obtained. Unfortunately, however, examples which can confidently be identified as water are rather scarce outside of the codices. Accordingly, the determination of trends has to be on an impressionistic rather than statistical basis. (3) To examine the similarity in the associations given falling water and the water-lily flower, noting the possible role of convergence or “substitution” (cf. Spinden, 1913, pp. 39–46, 122–124). This has importance, both for the problem of possible Asiatic connections, as raised by Heine-Geldern and Ekholm (1951), and for an understanding of the development of Maya art and religion.

## THE BETTER ESTABLISHED OCCURRENCES OF WATER

### TYPES OF ASSOCIATIONS

In the varied cultural phenomena of Mesoamerica, it is possible to isolate a number of distinctive associations with which streams of falling water clearly occur. The nature of the proof—or better, overwhelming weight of evidence—which permits us to say that water is intended, differs according to the specific association. Sometimes, as has been indicated, the telling evidence is derived from designs in the codices, with or without an accompanying explanation in European gloss. Sometimes the proof is to be found in documentary sources dating from the period immediately following the Spanish Conquest. Again, it lies in present-day Mesoamerican beliefs or practices which, with apparent correctness, can be regarded as survivals from pre-Spanish times. Previous investigations have drawn together a number of these evidences. As a result of all this, several associations which

were quite surely accorded rainwater in the period prior to the Spanish Conquest may be recognized. Some of these are:

(1) The emergence of water from a container, usually an inverted jar or other pottery vessel. An analogy to the human method of water storage is indicated.

(2) The emergence of water from some liquid-secreting portion of the body. An analogy, apparently, was drawn between the fluid in question, as produced by mundane beings, and rain as produced by supernatural ones. Thus, the production of rainwater seems to have been suggested by tears from the eyes, saliva from the mouth, milk from the female breast, urine or some other fluid from between the legs, and perhaps sweat from the pores of the body.

(3) The contact of water with some other portion of the body, which serves as the immediate source of the falling stream. Here, the analogy appears to have been with anatomical parts which would serve as temporary places for storing and then dispersing the water. Examples are: the mouth, where the cheeks form a somewhat expandable reservoir for holding water and the lips a means of ejecting it; the hands, from which water may be sprinkled. Here, perhaps, the sprinkling of water from an object held in the hands may also be mentioned.

(4) The occurrence of some foreign object, apparently of symbolic nature, within the falling water. The symbol may be a glyph, or it may merely be the representation of an object which seems to have strong connotative value.

It will be noted that the mouth qualifies as an anatomical association of potential importance, owing not only to its liquid-secreting function but to its pouchlike qualities, ideal for the temporary storage of water. Moreover, the passage of water through the mouth in drinking may have served to enhance its aquatic associations, while vomiting offers another physiological analogy upon which the emergence of water through the orifice might have been based.

More succinctly, these associations may be listed as follows:

- (a) Water from container.
- (b) Water from mouth.
- (c) Water from eye.
- (d) Water from breast.
- (e) Water from between legs.
- (f) Water from body (pores?).
- (g) Water from hand.
- (h) Water from object (other than container) held in hand.
- (i) Waterlike design from head. (This, however, may not actually be intended as water.)
- (j) Glyph in water.
- (k) Object in water.

These categories appear in tables 1 to 3 and 6 under the broader heading, "Direct water associations." Obviously, although the singular is used, it may be that multiple containers, mouths, or other associated objects appear in a given representation.

The listing of these 11 direct associations does not imply that additional ones cannot be found in extant material from Mesoamerica. An attempt toward completeness has been made, however, in the case of liquid-secreting portions of the body. As a matter of fact, at one time or another during the archeological and protohistoric record, several of these associations seem to have been of minor importance. Artistic evidence would indicate that this is true of *c* to *f* (water from eyes, breasts, between legs, and body), and perhaps others.

The aquatic associations are not confined to the objects heretofore mentioned. Certain supernatural beings also recur with the streams of water, as the rain-producing agents. Several agents are recognized in the tables, under the heading "Water producers." Their more precise characteristics will be developed textually but, for general purposes, four broad classes may be abstracted: (1) anthropomorphic, with established pluvial associations, viz, deities of the rain; (2) anthropomorphic, but not known to function primarily as rain gods; (3) animals; and (4) composite monsters in which serpentine or saurian characteristics are pronounced. Some blurring of these categories occasionally exists.

For purposes of tabulation and effective analysis, the water producers are treated in a somewhat different way. The following categories are recognized:

- (a) Tlaloc, Tlaloc variant.
- (b) Anthropomorphic Long-nosed God.
- (c) Female water deity.
- (d) Black God (M, B).
- (e) Miscellaneous anthropomorphic.
- (f) Frog.
- (g) Serpent.
- (h) Jaguar.
- (i) Bird.
- (j) Miscellaneous animal.
- (k) Serpentine-saurian monster.
- (l) Detached rear head of monster.
- (m) Other grotesque head, face.

Except for the grotesque face and the rear head of the saurian-serpentine monster, all are known to be water-producing agents in previously established portrayals of water.

Associations of yet another kind may be recognized. Certain themes or complex treatments seem often to have been introduced into portrayals of water. Tabulation of such recurrent patterns is

attempted but, by their very nature, the associations require extended textual explanation. In the tables, they appear under the general heading "Configurations." The categories of this sort are:

- (a) Death, misfortune, and destruction.
- (b) Water descending upon horizontal surface water.
- (c) Water descending upon figure.
- (d) The bending-over rainmaker.
- (e) The sky monster and its affiliates.
- (f) Balanced water and vegetation.

Each of the configurations is known to occur in established portrayals of water.

The reality of the various associations of water has, up to this point, been affirmed but not demonstrated. Nonartistic data have an important story to tell in this connection. Not only does the accumulating knowledge of Mesoamerican hieroglyphic symbols and religion provide a broad background from which to approach the problem, but it repeatedly provides new evidence with which to bolster the conclusions. To cull the findings of others is anything but a thankless task. Yet to do so is somewhat apart from the primarily artistic aims of the present investigation. Therefore, other data, although significant, are confined to Appendix A; and elsewhere the argument that the water associations are actually represented is, as nearly as possible, developed along purely artistic lines. Separated in this way from the other types of data, the artistic evidences may perhaps be more clearly seen.

Still, it is necessary to make certain fundamental assumptions, on which there will probably be general agreement. (1) Designs showing water have been successfully identified in the Mexican and Maya codices by previous workers. (2) Many of the beings shown in association with falling water in the codices are supernaturals connected with rainfall; hence, the water is actually intended as rain. (3) Therefore, if outside the codices a given design occurs in connection with what seems to be a supernatural being, the falling of rain may be depicted, whereas if the being lacks obvious supernatural attributes, rain itself or even water per se is not so likely to be shown. Instead, some sort of paraphernalia or other object which may symbolize rainfall would appear to be a relatively greater possibility. (4) Hence, when religious and symbolic attributes are indicated, it may be that some liquid other than water is depicted but that it is meant to symbolize water. Here, it is necessary to refer to nonartistic data, for there are good evidences that liquids such as balche sometimes served to symbolize rainwater in Mesoamerican religious practices.

Except for the first and fourth, these assumptions are not of im-

mediate significance to the present thesis. Yet the fourth assumption rests upon the second and third, so all have their importance. In the following passages, the identifications will usually be made as "water" or "probably water" without reference to the possibility that some other liquid which symbolizes water may be portrayed. If the four assumptions are correct, this procedure should be thoroughly justified. The important concept—rainfall—would not be altered. It is recognized that there is often great difficulty in determining whether a being in the sculptures is "supernatural" or "mundane." Common-sense judgments and the accumulated background knowledge built up from past studies must be relied upon.

For the previously established portrayals of water in the codices, therefore, it is sufficient to tabulate the individual occurrences and restrict discussion to especially informative examples and general trends. Added discussion is required as consideration is given to representations which are increasingly tenuous in their identification.

#### THE MAYA CODICES

The most distinctive water scene in the three Maya codices is that on page 74 of the Dresden manuscript (table 1; pl. 72). Other representations of falling water are quite frequent, consisting almost entirely of vertical blue or green lines or rows of dots, often against a lighter background of the same color. On Dresden 74, however, clearly outlined columns of falling water are depicted. Slightly undulating lines and rows of circlets mark the inner portions of the water; larger circles are placed along the margins; the vertically descending streams frequently jut out in rounded, slightly downward pointing projections. Although dots occur frequently, and projections rarely, on other representations of water in the Dresden Codex, these features are completely absent in the Madrid and Paris manuscripts.

Many of the water associations discussed herein occur on Dresden 74. A standing anthropomorphic figure with jaguar claws—Schellhas' Goddess I—leans forward while pouring water from an inverted jar. Bones decorate her skirt, which is also marked with green circles of the type that denote water elsewhere on the page. One or two glyphs appear in the water which she is pouring; the day sign Eb, without numerical coefficient, and a smaller, shell-shaped design which has been identified as zero or completion (Förstemann, 1906, p. 222; Spinden, 1913, p. 68) yet which may possibly be merely a shell without this significance.<sup>2</sup> Other streams of water gush from signs of the sun and moon. More water seems to flow from the mouth of the snake

<sup>2</sup> Shells are frequently known to appear in Mexican, although not in other Maya, portrayals of falling water. They often occur in surface water in the Maya codices, however.

atop the head of Goddess I, although this water may, instead, be an extension of the stream that falls from the sun. An armed black god kneels at the bottom of the page, a "screeching" bird<sup>3</sup> atop his head. The rear portion of what seems to be his breechcloth closely parallels the color and markings of water elsewhere on the page. Apparently the breechcloth bears water symbols, although it is possible that an actual stream is intended, falling from the general region between the legs. Dominating the entire scene is a great column of water which descends from the mouth of a monster with downward pointing head. The creature's body is a band of astronomical symbols (or perhaps emerges from such a band); its leg, with cloven hoof, dangles from the sky.

The prominence given the dragon in this aquatic setting attests to the general importance of the sky monster configuration. The creature on Dresden 74 has been identified as a crocodile by Förstemann (1906, p. 265) and as a lizard-crocodile-peccary-reptile by Tozzer and Allen (1910, pp. 287, 320, pl. 32, No. 6). Except for the absence of a rear head, it is a classic example of the serpentine-saurian dragon of the Maya with parallels in the sculptures and elsewhere in the codices. Thompson (1939) has held that the numerous bands of planetary symbols, from which rain is often shown falling, are intended as segments of the monster's body. If this is allowed, the configuration of the sky monster and the direct association of water with its body are well nigh ubiquitous in the codices. Such representations have not been tabulated, although Thompson's suggestion has much to recommend it. With a head attached, however, only one other planetary band occurs in the codices as a source of rainfall (Paris 21). Here it is impossible to tell if the monster is single- or double-headed, due to the obliteration of the design. In other cases, serpents are so placed as to give the appearance of being in the air and are, moreover, directly or indirectly connected with the production of water. Thus, the snake's body sometimes holds an inverted vessel from which water is spilling or has been emptied (Madrid 9(?), 31b(?), 14b). The snake also serves as an object upon which other water-pouring deities are standing (Madrid 13b, 30a). These celestial snakes are tabulated as having only a doubtful affiliation with the sky monster.

Another of the configurations prominently displayed on Dresden 74, the theme of death and destruction, characterizes additional water scenes in the codices. On Madrid 7b it is simply that the death god, A, is the water producer, a stream descending between his legs. On Madrid 32b a human figure is falling, head down and

---

<sup>3</sup> The bird is described as a possible eagle by Tozzer and Allen (1910, pl. 20), as screeching and raging by Morley (1915, p. 32).

with eye closed in death, in a stream of water from the mouth of a variant of Goddess I. Madrid 32a, on the other hand, does not display any of the direct water associations. But rain is falling heavily from the sky band, a serpent is in the sky, and the armed black god strides militantly through the downpour.

The bending-over rainmaker is present, in the person of Goddess I, on Dresden 43b as well as Dresden 74. In the latter case, however, the characteristic posture seems to result from the fact that she is leaning over her jar, while in the former her back seems almost to be deformed. It is a question whether the same concept is reflected. Her posture is upright in other codex portrayals.

Goddess I frequently presents strong feline aspects. Her jaguar features are pronounced on Dresden 74, where she not only has clawed hands and feet but a brownish body and spots on her legs, as well. Clothing prevents knowledge of the presence or absence of these jaguarlike features elsewhere on her body. On Dresden 67a her body is reddish-brown, and she has unmistakable jaguar paws, here marked with spots, for hands and feet. All of these features tend to indicate a connection of the jaguar with water, although elsewhere when Goddess I has aquatic associations she is lacking in feline attributes. On Madrid 30b, however, a small animal identified as a jaguar by Tozzer and Allen (1910, p. 356) sits on her outstretched hand, while streams of water gush from her breasts and between her legs, as well as from the animal's mouth (pl. 73, *a*).

Viewed as an isolated case, the position of the water-spitting jaguar in the goddess' hand would not evoke special comment. In other instances, however, it will be seen that objects held in the hand likewise serve as the origin of falling streams. These objects are clearly not containers in the usual sense, and some of them are of a rather specialized type. Perhaps the position of the jaguar on Madrid 30b reflects a related concept, although the argument cannot be pressed at this time.

The direct association of rainwater with the hand is also somewhat tenuous. On Madrid 33b a black god wears scorpion (?) claws<sup>4</sup> at his waist, and water pours out from them. The sprinkling of water from the hand is suggested. On Madrid 93c there seems to be no doubt that water is shown falling from the hand. It is sprinkled by human figures upon seated individuals, however, and a baptismal rite is apparently represented (Tozzer, 1941, p. 102). The Madrid 93c scene is unique among the tabulated portrayals from the Maya codices in that it does not occur within a passage in which water is prominently and repeatedly shown. This fact, coupled with the absence

<sup>4</sup> The scorpion's sting is characteristically treated as a grasping claw or even as a hand in the Maya codices (Tozzer and Allen, 1910, p. 306, pl. 4, Nos. 1, 2).

from the scene of a sky band, greatly lessens the possibility that rain is either pictured or symbolized.

Numerous glyphs occur in seemingly fortuitous contact with representations of water. This is well exemplified by Madrid 32a, where rain blankets the entire scene. Numerals are in the water which falls between the legs of Goddess I on Madrid 30b, 32b (pl. 73, *a*), although there seems no reason to regard them as falling in the streams in the way that appears to be true of Eb on Dresden 74. Paris 21 may warrant attention, however. In the midst of rain which descends from the body of a sky monster there appears a glyph of unknown meaning (glyph 321.1 of Gates, 1931, pp. 147-148) and a "sun medallion"—a kin sign within a circle from which four stylized serpent or bird heads radiate outward.<sup>5</sup>

The extended discussion which has been accorded certain rare or deviant associations of water should not be allowed to obscure the prominence of other traits. Water is poured from a container in some eight or nine codex scenes, falls from between the legs in six to eight scenes, and gushes from the mouth in five scenes (table 1, p. 376). The actual occurrence of water from the mouth is greater as it has this association with four frogs on Madrid 31a, two animals on Madrid 30b, and perhaps two serpentine creatures on Dresden 74. Of the direct water associations, then, these three—water from container, mouth, and between the legs—seem to have been of paramount importance during the comparatively late period from which the codices apparently date.

#### THE MEXICAN CODICES

Representations of water, blue or green in color, are frequent in the non-Maya codices of Mexico. Surface water is commonly depicted, rather than the rain descending from the sky that so often appears in the Maya codices; surface water, correspondingly, is relatively infrequent in the Maya manuscripts. Almost invariably Mexican water is shown topped with foam or branching into an angular, serrated outline. Although stylistically distinct, these branches faintly recall the projections that characterize a few portrayals of water in the Maya codices. The branches are frequently tipped with alternating circles and shells. This combination, unknown in Maya art, is sharply differentiated from the rows of dots that sometimes occur at the margins of Maya water. Lines, which often appear within Mexican water, are generally more wavy than the lines within water in the Maya codices. These Mexican features which, faintly and perhaps fortuitously, echo certain elements that occur in Maya

<sup>5</sup> Comparable medallions occur at Palenque and Piedras Negras (Maudslay, 1889-1902, vol. 4, pl. 6; Maler, 1901, pl. 19).

water, combine to form a type of portrayal which is radically different from the water of the Maya codices.

Elaborate scenes on pages 27 and 28 of the Borgian codex are difficult to classify but surely display several of the water associations (pl. 73, *b*). On each page the rain god Tlaloc is portrayed five times, being assigned to the four cardinal points and the fifth direction, the center. In each representation he is in the air, green columns of water falling from between his legs and in apparent connection with objects he holds in both of his outstretched hands.

According to Seler (1904, p. 269), each of the Tlalocs holds in his right hand an effigy jug with the features of the rain god. Effigy vessels with Tlaloc faces occur elsewhere in the codices and as archeological specimens. However, the so-called jugs on Borgian 27 and 28 are highly ornate and are apparently lacking an orifice of any type. Moreover, the water, as sometimes depicted, appears to descend from the god's right wrist rather than from the "jug." True, the water may conceivably be represented as flowing from the "jug" but behind the wrist. In some of the pictures this explanation seems plausible, although in others it would require extreme impressionism, not to say sloppiness, on the part of the artist. The associations most in keeping with a literal adherence to the portrayal are water from the wrist or wrist ornament (not hand!) and possibly water from an object which is not a vessel but is held in the hand. In Maya sculpture there will be occasion to note the attachment of waterlike designs to rain-god-like heads which are held in the hand. Perhaps the parallel is of importance in explaining the Borgian representations. Closer to home, Selden 9 portrays a full-figure Tlaloc that holds a Tlaloc head, from which drops of water are falling. The correspondence to the Borgian scenes is striking, and here again a container in the normal sense of the word is not indicated.

Yet so far as possible the Borgian scenes must be explained on their own merits, and the object held in the left hand of each Tlaloc figure would seem to offer valuable comparative evidence. This object is identified as a hatchet-shaped lightning serpent by Seler (1904, p. 269). By and large, the serpents appear more clearly to be sources of the falling water than is true of the small effigies held in the opposite hands. Nevertheless, the water below the left hand of each Tlaloc appears at times to issue from the god's wrist or hand instead of from the serpent. One might suppose that the same water-producing agent would occur consistently. Perhaps, then, this evidence demonstrates, more than it does anything else, that too literal adherence to the actual design often obscures the intended meaning. Elsewhere in the Mexican codices, however, the artists give every indication of having faithfully recorded the exact associations they desired for the

falling streams. Arguments and rebuttals can be prolonged without reaching satisfactory conclusions about this highly interesting set of aquatic associations.

Various objects are pictured, apparently falling, in the columns of water below the serpents and Tlaloc effigies. The nature of the objects may be associated with the calendric division to which they are assigned, for the symbolism is sometimes beneficent, sometimes injurious (Seler, 1904, pp. 269-270). On Borgian 27, in the division assigned to the east, maize ears appear in the water; in the north, hatchets and a maize ear; in the west, a maize ear; in the south, maize ears and a hatchet with flame shooting from it; and in the center, spear thrower, darts, shield and banner, an ear of maize, a bone, and a skeletal figure of the death god. Here the theme of death and destruction is especially manifest. On page 28, in the division representing the south, small figures of Ehecatl appear, head downward, one in each of the falling streams.

On Borgian 27 and 28 as elsewhere, streams of water descend upon or in back of human or anthropomorphic figures. The water is not actually shown contacting the figures and may accordingly fall behind them in the Borgian portrayals. This is also true on Borgian 31 and Nuttall 19. On Vienna 12, however, a seated figure is clearly pouring water over himself from a jar. And on Nuttall 5 Tlaloc is depicted in the air, emptying from his half-everted jar a stream of water which splashes over the sitting figure of the supposedly historical personage, Lord Eight Ehecatl (Codex Nuttall, 1902, p. 27). Some of these occurrences do not particularly suggest the production of rain, although the occasional presence of the god Tlaloc may possibly argue for such a connection for the scenes as a whole.

Reminiscent of Borgian 27 and 28, various objects occur in falling streams of water in additional codex representations. On Laud 5, the conventionalized jawbone of a serpent appears in water that is poured upon a fire from a vessel. Definite glyphs, signs for the rubber ball, appear in streams of water that are poured from containers on Fejervary-Mayer 8 and 33.<sup>5a</sup> On Borgian 31 water arches from the mouths of two skulls; at the end of each stream, perhaps falling in the water, is another skull which has arms that terminate in claws.

The same theme is indicated on Rios (Vaticanus A) 4 where the water goddess, Chalchihuitlicue, is pictured in the midst of a torrent of water which is apparently descending from the sky (pl. 74, *a*). The accompanying text of this post-Conquest codex indicates that the scene treats of the previous destruction of the world by water (Kingsborough, 1830-48, vol. 6, pp. 172-173). Chalchihuitlicue is holding

<sup>5a</sup> The glyphs' association may, however, be primarily with the piles of firewood upon which the water descends, rather than with the water itself (cf. Seler, 1901-2, pp. 66, 181).

an inverted vessel.<sup>6</sup> An *atl*-like design with circle-tipped prongs occurs below the container, apparently a small stream that is distinct from the general rush of waters, being dark green on a green background. Chalchihuitlicue is apparently adding to the deluge by pouring out another, smaller stream. A distinctly outlined design curls upward, around her knee. It has the branching prongs typical of water, though they are not tipped with circles. It appears very probable that this is yet another stream of water, which issues from the region of the goddess' genitalia.<sup>7</sup> Additional configurations are present in this scene. The theme of death and destruction is not necessarily to be inferred from the scene itself but is clearly recorded in the accompanying text. The area covered by the water—comparatively narrow at top but broad at the base of the representation—attests to the descent of water upon surface water.

The latter configuration also appears on page 1 of the Codex Laud (fig. 14, *a*). Here, in a scene dominated by a large figure of the rain god Tlaloc, an anthropomorphic frog pours water from a half-inverted jar. The stream falls upon a foam- or wave-capped representation of surface water in which aquatic animals appear. It is also of interest that the frog leans forward slightly while emptying the jar; like other Mesoamerican rainmakers, it is bending over while at work.

The falling water on Laud 1 is highly atypical in design. Instead of branching into a number of comparatively narrow, angular prongs, it divides into two distinct streams which are uninterrupted in outline. While for the most part colored blue, the water is sharply differentiated from other representations in the Mexican codices by having narrow, uncolored bands along portions of the margins. It will be seen that probable representations of water in Maya sculpture are similarly characterized by a tendency to divide into semidistinct streams and by marginal bands. Likewise, streams of falling water on Nuttall 19 (fig. 14, *c*) are marked with protuberances which far more closely approach the projections diagnostic of Maya water than they do the serrated outlines so well-nigh ubiquitous in the Mexican portrayals.

The configuration of water and vegetation is remotely suggested on Codex Fejervary-Mayer 33. Here Chalchihuitlicue wears a complicated headdress that consists of a serpent head, jaguar ear, vegetal motif, and extended arm and hand; the hand grasps plumes that are attached to an inverted jar, from which a stream of water is descend-

<sup>6</sup> The container is unusual in appearance, but similar sacrificial bowls, in the Borbonicus Codex and in stone, are discussed by MacCurdy (1910, pp. 392-393).

<sup>7</sup> On Borglan 27 and 28, as in the Maya codices, however, the water which descends between the legs is wide and columnar—a general liquid downpour—rather than, as here, as a comparatively narrow stream which seems to issue from a specific organ. Possibly a sash is shown, but if so it is treated in such a manner as to suggest and probably symbolize the descent of water.

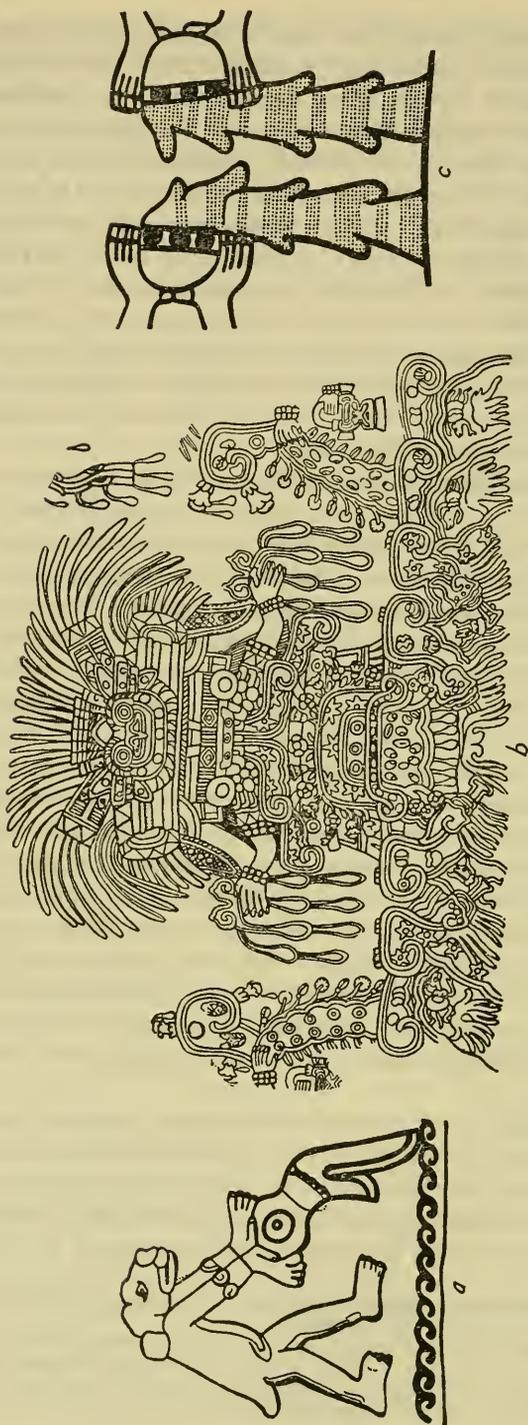


FIGURE 14.—*a*, Laud 1. *b*, Mural scene at Tepantitla, Teotihuacán (Entry 4). *c*, Nuttall 19.

ing. The maize god is pictured with her, vegetation also growing from his head.

Notwithstanding the possible incompleteness of table 1 for the Mexican codices, a totaling of the traits' occurrences should be helpful in indicating important trends. The most frequent of the direct water associations are the emergence of water from a container (some dozen scenes) and from the mouth (six scenes). Scenes showing water falling between the legs are rare (1 or more), but this is shown 10 times on Borgian 27 and 28. Objects, human figures or otherwise, appear to be falling in water rather frequently (4 scenes, including 10 of the 30 columns of water that appear on Borgian 27 and 28). Glyphs appear twice in the water, both times in the Fejervary-Mayer. When water does occur with the mouth, the snake is often involved (Baranda 3, Borgian 36, Dehesa 9). The only other animal engaged in the production of water is the frog (Laud 1). Of the deities, Tlaloc occurs as a water producer in four scenes (10 times on Borgian 27 and 28) and Chalchihuitlicue at least twice. All of the configurations except the sky monster seem to be present. The descent of water upon (or behind) a seated figure is most frequent (five scenes) but, as indicated above, different concepts may be involved. The death and destruction theme seemingly is featured in three scenes.

#### AZTEC AND TEOTIHUACAN MURALS, SCULPTURES, AND CERAMICS

The probability that water is portrayed is certainly less in the representations about to be discussed than was true for the Maya and Mexican codices. Nevertheless, the basic identifications as falling water have been made by previous workers, and on good grounds; for the artistic tradition is clearly related to that of the Aztec *atl* (water) sign and portrayal. Considerable continuity in the treatment of water from Teotihuacán times through the Tula Toltec (cf. Meyer, 1939, fig. 1) and up to the Aztec is indicated. In the codices, to be sure, the blue or green color serves as a guide that water rather than some other liquid is portrayed; blood, for example, is usually shown with the characteristic *atl* outline<sup>8</sup> but is red. The evidence of color may be utilized on murals but generally not on sculptures or ceramics. This factor, as well as the admittedly increasing divergence from late norms as one goes back in time, introduces a degree of doubt into the identifications. Yet in most cases the uncertainty would not seem to be great.

There can be no reasonable doubt that water is poured by the human figure in low relief on the lid of an Aztec stone box in the

<sup>8</sup> Shells do not occur at the tip of the prongs in standard representations of blood.

British Museum (pl. 74, *b*, Entry 1).<sup>9</sup> The water branches into prongs tipped with alternating circles and shells, being stylistically identical to that pictured in the Mexican codices. Curiously, however, it divides into two streams; one falls and the other ascends. This is true, at least, if the two drops of water (which are essentially identical to the rather infrequent droplets of precipitation shown in the codices) are descending vertically; in such a case the jar is half inverted. If, on the other hand, the figure is shown head downward, the jar is fully inverted and the water spreads out at either side; but in such a case the drops are moving horizontally. Reminiscent of Borgian 27, ears of maize appear in the water. Elsewhere on the box an *ahwitzotl* occurs, water perhaps emerging from its body (Seler, 1902-23, p. 518).

Admittedly, footing is less secure when one turns to a consideration of waterlike designs in Teotihuacán art. Two basic problems may be made explicit from the start, in the form of questions. (1) Is the liquid which is so frequently portrayed—all sources apparently grant the presence of liquid of some sort—actually intended as water? Broadly speaking, earlier identifications of the designs favored pulque; this was the classic explanation accorded the motifs in the Teopanxco murals. Especially with the discovery of the Tepantitla murals but even prior to this event, however, identifications of comparable motifs as water were gaining in ascendancy. There is no need to review the literature on the subject in detail and, as stated earlier, the relationship of the motifs to pluvial symbolism need not necessarily rest on the actual portrayal of water. Because of the great abundance of these highly standardized designs, however, the problem does assume considerable importance. (2) Are the speechscroll-like designs with waterlike markings to be recognized as simple speechscrolls, as speech or song with an aquatic import, or as actual representations of water emerging from the mouth?

Seler's description of the Teopanxco murals (Entry 3) represents a point of view worth recording.

All the figures have before their mouths a very large and broad spiral roll, adorned with flowers, which means [*cuicatl*], "adorned speech or song." They hold in the left hand a *copal-ziquipilli*, an incense bag, a well-known priestly attribute, and with the right hand they pour a liquid to the ground. This liquid has a border of scum, it is finely dotted, and it may be that it originally exhibited a blue colouring, but it is fringed with flowers like the sign of the adorned speech or song, and from this fact it must be inferred that this liquid is not meant as pure water. Most probably it may be explained as representing pulque [Seler, 1913, p. 200].

<sup>9</sup> The probable dates of dedication and sources where the noncodex portrayals have been illustrated are indicated in the following fashion. An entry number is assigned to each water scene or group of essentially identical scenes. This number is given textually, in the appropriate table (1 or 2), and again in table 4, where it relates to these and additional data. Cross reference is thereby facilitated without interrupting the flow of textual discussion or over-crowding a given table.

The adornment of speechscrolls and liquid with the same type of flowers suggests a connection between them, although it is difficult to see why this indicates a portrayal of pulque rather than of pure water. Streams of falling water in the Borgian Codex are sometimes shown with flowerlike appendages, strongly reminiscent of those on the Teotihuacán designs (pl. 73, *b*, fig. 14, *b*). Foam or scum sometimes appear on surface water in the Mexican and Maya codices (e. g. fig. 14, *a*, and Dresden 65b, 67b). Could not the "incense bag" be a container from which water is cast upon the ground? (It does not, to be sure, look like a pottery vessel.)

For comparable designs, at least, the consensus of opinion seems to have moved away from the interpretation of pulque and toward that of water. Linné argued in 1942 (pp. 82-86) that an engraved vessel in Teotihuacán style from Calpulalpan (Entry 10) showed various types of water, beneficial and harmful, as sprinkled from the hand (cf. Linné, 1934, pp. 57, 58, 61.) In the same year, Caso (1942) identified designs in the newly discovered Tepantitla frescoes as water; like those from Teopancaxco the designs emerged from the hand but, in addition, they were clearly associated with representations of the rain god Tlaloc and descended upon undoubted portrayals of surface water (Entry 4). Since then Armillas (1947) and Villagra Caletí (1951), in one way or another, have emphasized the aquatic significance of varied Teotihuacán motifs. Von Winning's researches are especially pertinent. His identifications of dripping water include single droplets (1947 a, fig. 1); trilobal drops, in which three droplets merge at the top to comprise a composite element (1947 a, fig. 3, *g-n*); and a treble scroll, to which droplets are sometimes attached (Neys and Von Winning, 1946, figs. 1, 2, *e-i*). His primary discussions concern the motifs themselves, rather than their associations, but his references in the latter connection are significant. For, in Teotihuacán art, Von Winning mentions water in connection with the mouth (1948, p. 131; Neys and Von Winning, 1946, p. 84); the eye (Von Winning, 1947 a, p. 334, fig. 1, *h-m*); the hand (1947 a, p. 333); and an object for sprinkling connected with the hand (Neys and Von Winning, 1946, pp. 83-84). With some degree of probability, then, the existence of several of the direct water associations has already been shown for the Teotihuacán culture.

In a particularly convincing fashion, the emergence of water from the mouth and hands seems to be depicted in murals of the Palacio de Tepantitla, Teotihuacán (Entry 4, fig. 14, *b*). A standard of comparison is offered by designs which have commonly been identified as waves of surface water<sup>10</sup>—an interpretation supported by the presence of various shells and aquatic animals such as starfish and

<sup>10</sup> For a somewhat similar treatment of waves, cf. Fejervary-Mayer 3.

turtles (Caso, 1942, p. 134).<sup>11</sup> In repeated, virtually identical designs, a series of Tlaloc-like figures appear above the waves. The Tlalocs are flanked by human figures comparable to the "singing Pulque priests" of Teopanxco. Both the Tlalocs and the priestly figures seem to serve as agents for the production or distribution of water, and various streams surely descend upon the surface water at the base of the design.

Caso (1942, p. 134) has identified the designs which pass from the Tlalocs' hands as water. Each design seems to spurt up from the palm of the hand and then cascade downward. Elongated, more or less individualized drops are shown, which closely correspond to the actual appearance of falling water. Although infrequent, somewhat comparable drops are not unknown in Aztec portrayals (pl. 74, *b*).<sup>12</sup> Several of these drops at Tepantitla are clearly shown as falling not from the hands themselves but from the adjacent wrist ornaments. Borgian 27 and 28 (pl. 73, *b*) come vividly into mind in this connection, and an association of water with Tlaloc's wristlet as well as with his hand may well be indicated.

The streams from the hands of the human figures are shown in somewhat different fashion. Rather than consisting of semi-individualized droplets, these designs are basically columnar in shape. In this they correspond to falling water as usually pictured in the Mexican codices. Like the codex portrayals of water, too, they are fringed with characteristic objects; apparently water-lily leaves and buds in the Tepantitla frescoes (fig. 14, *b*), as compared with flowers in the Borgian Codex (pl. 73, *b*) and shells in the typical Aztec portrayals (pl. 74, *b*). The resultant serrated outline is also a diagnostic of water in the codices. According to Caso (1942, p. 134), these priests cast seeds and jade beads to the earth. In view of the similarity of the designs to water, it would seem that these objects are intended to appear in falling liquid streams.

This fringed and serrated column does not totally comprise the design which emerges from each human hand, however. For the representation bifurcates, a portion rising in a speechscroll-like spiral. Yet the failure of this element to approach the mouth suggests that a speechscroll is not intended and, moreover, it is considerably wider than the well-established speechscrolls. To be sure, it may also be argued that water would not rise upward from the hand and that such an identification would, thereby, be equally inapplicable. Several factors severely minimize the weight of this objection, however.

<sup>11</sup> Note identical "starfish" on the costumes of the so-called pulque priests at Teopanxco. Von Winning's trilobal drop element also occurs on their dress (Peñafiel, 1900, pls. 82, 83, 85, 86, 87). The same objects adorn the costumes of comparable figures at Tetitla, who also seem to be sprinkling water (Entry 5).

<sup>12</sup> Cf. their association with Tlaloc, although not with his hand, in Magliabecchiano 44.

(1) The water may be tossed upward from the hand into the air. (2) The scrolled nature of the element seems consistent with this suggestion, for it could easily convey the impression that a liquid thrown into the air had been halted in its upward path and was caught in the wind before slowly commencing its descent. (3) However this may be, probable water elsewhere in the murals has been seen to surge upward from the hands of Tlaloc before it tumbles down. (4) Falling water is shown as bifurcated, with one branch probably rising, in Aztec sculpture (pl. 74, *b*). Accordingly, the rising nature of the design would not appear to impose particular difficulties in an identification of water. The case for the rising scroll depicting water does not rest solely upon this rebuttal, however, for positive evidences also exist. (1) The frequent occurrence of shells within the scroll is, alone, an indication of aquatic connections. (2) The rising scroll is fringed with floral motifs, like the lower section of the bifurcated design, and emerges from the same hand; hence the identity of the two elements seems probable and an identification of water indicated, inasmuch as the lower section has just been seen to display important correspondences to streams of falling water in the codices. (3) Most convincing of all as evidence that water is portrayed would appear to be the fact that in shape, as well as inner markings, the rising scroll precisely duplicates many a wave pictured in the surface water below.

Elsewhere in the Tepantitla murals are shown large, full-face Tlalocs without lower jaw. From behind the tusklike teeth of the upper jaw emerges a branching object, which has been identified as a bifurcated tongue (Caso, 1942, p. 134). That it may in reality portray water which gushes from the mouth is indicated by several factors. (1) In outline it is essentially identical to the waves. (2) "Starfish" are depicted within it and also in several of the waves. (3) It is not simply bifurcated but occurs as four more or less distinct elements, two of which are in part lower than and behind the others. The impression given by this is that of an undulating mass which is tumbling down—an appearance much more characteristic of water than of the tongue. The treatment is analogous to that of droplets from Tlaloc's hands in the same frescoes, where one drop emerges from behind another higher one.

The prolonged argument that water is portrayed need not be repeated for virtually identical Teotihuacán designs. Minute differences, on the other hand, do require additional comment. (1) Sometimes the design in question does not have the outline of a wave (Entry 8) but instead is marked with a row of hooks such as are acknowledged to indicate waves on numerous representations of surface water (including many in such codices as the Vienna, Fejervary-

Mayer, and Nuttall). The conceptualizations appear to be identical: the streams of falling water are simply given artistic attributes characteristic of surface water. (2) The design that spurts up from the hand does not always fall as droplets. In Entry 6 (the well-known "Goddess of Waters"), such designs trail off in horizontal bands which are decorated with hooks of the sort just discussed. (3) The rising, speechscroll-like elements frequently pass from the mouth rather than from the hand. An association with the mouth is consistent both for song or speech and for water, but when virtually identical scrolls emerge from the hand the sprinkling of water is much more readily suggested. Moreover, the design from the mouth occasionally falls in a way characteristic of water (Entry 8) rather than spiraling outward in the typical speechscroll manner. This is not to deny that, say, ritual chants about rainfall may sometimes be indicated by the designs from the mouth. If one is to be consistent in assigning a specific meaning to this oft-repeated motif, however, water is much more clearly favored as a possibility than is the speechscroll.<sup>13</sup>

The Atetelco frescoes (Entry 2) are not as patent in the portrayal of water as are those from Tepantitla. Rather than wide scrolls of the Teopancaxco-Tepantitla sort, the designs emphasize recurving, composite spirals or simple ones of the typical speechscroll type. In place of realistic streams of the Tepantitla sort, there appear symbols that supposedly indicate water—Von Winning's treble scroll and trilobal drop elements. Drops are consistently shown falling from all these art forms, enhancing their probability as water. The motifs appear in connection with the mouths of humans, serpents, and composite feline monsters, as well as with conch shells that are worn or carried by human figures. In the latter case, it would seem that the scrolls are emerging from the spires of the conch shells. Appearing within the more elaborate scrolls are cross sections of shells and the trilobal drop and treble scroll symbols. Such occurrences suggest the existence of both objects and "glyphs" in the falling streams.

The most that can be hoped for the tabulated Teotihuacán designs (table 1) is that they begin to represent the range of variation in the treatment of falling water at the site. Water from the mouth and, especially, the hand are the direct water associations given greatest prominence. Possibly the consensus of opinion which would regard all the spirals from the mouth as speechscrolls is correct, after all; but

<sup>13</sup> That some convergence took place, between art forms if not the underlying concepts, is indicated by designs associated with one of the Teopancaxco figures (Peñafiel, 1900, pl. 87). Here a spiral from the mouth is narrow, resembling a typical speechscroll in every respect. It is symmetrically balanced by a narrow scrolling band, marked with wavelike hooks, that passes either from the hand or from a staff, possibly a rattle, that is held in the hand.

several different treatments would still remain as associations of the mouth and water. The themes of water descending on surface water and balanced water and vegetation are very important. Tlaloc and anthropomorphic ("priestly") figures serve most frequently as the water producers, although serpents, jaguars, birds, composite animals, and a female figure also have this function. Additional direct water associations exist. Objects appear in falling water, probably including shells, seeds, flowers, signs for jade, and various water symbols. It seems appropriate to classify some of these examples either as objects or glyphs in water. Von Winning's designs showing the supposed associations of the eye with water have not been tabulated, partly because the "eye" does not seem to occur as a source of the streams. Probably, however, these eyelike designs can be regarded as an additional object which characteristically is shown falling in the water.<sup>14</sup> Nor have the objects identified by Neys and Von Winning (1946) as sprinklers for water been made the subject of tabulation. Much of their material is quite suggestive, and their figure 2, *a*, seems surely to show the sprinkling of some sort of liquid. The red color of the drops suggests the portrayal of blood, however.

#### SUMMARY

Indubitable occurrences of falling water are to be found in the Maya and Mexican codices, in Aztec sculpture, and presumably in the murals, sculptures and ceramic art of Teotihuacán. The Teotihuacán examples, while somewhat less certain than the others, are of great significance because they appear to push back a number of the water associations to the early Classic period in Mesoamerica. A minimal dating is thereby provided. Briefly restated, five major reasons may be listed for accepting the identifications of falling water at Teotihuacán. These consist of the often realistic nature of the portrayals; the correspondences of the portrayals to water in the Mexican codices; the specific correspondences of the portrayals to what must be surface water in Teotihuacán art; the frequent proximity of the portrayals to this surface water; and the repeated associations of the portrayals with a goggle-eyed deity who must be a forerunner of the Aztec rain god Tlaloc. It is also worthy of comment that at Atetelco, Teotihuacán, previously identified water symbols (the trilobal drop element and treble scroll) substitute for the designs recognized herein as portrayals of water. This strongly suggests that the same concept was manifested under different art forms.

---

<sup>14</sup> An eye may occur in water poured from a vessel in Mexican Codex art (Hamburg Codex, concerning the authenticity of which there is, however, some doubt). For additional support of Von Winning's identification, see probable surface water at Tetitla (Villagra Caletl, 1951, fig. 13; Gordon, 1905, p. 140, pl. 4, b; and Borgian 72 (table 1)).

The existence of most of the water associations is established on the basis of the codices and of the archeological remains from the Valley of Mexico. Notable exceptions, the existence of which has not been demonstrated, are water from the eye and possibly the body. There is a paucity of supporting evidence for water from the breast and from an object held in the hand, although there can be no doubt that these associations occur. The data considered to this point fail to establish the rear head of the serpentine-saurian monster as a water producer, although significantly the one-headed version of this monster is closely connected with water on Dresden 74. All of the configurations are present. The array of well-established water associations is impressive, and when a design of unknown significance appears repeatedly with similar associations, a precedent exists for provisionally identifying the motif as falling water.

## THE PROPOSED IDENTIFICATIONS OF WATER

### ARTISTIC APPROACH TO THE IDENTIFICATIONS

It is not enough to identify a motif as falling water simply because it appears in connection with beings or objects which are known elsewhere to be associated with water. Certain other requirements should be met, and the more rigorously they are fulfilled the more impressive the identification becomes. The motif in question should resemble portrayals of water, particularly falling water, that are known to occur in the art of the same general period or region. It is necessary as a final requirement that the motif somehow convey the impression of a falling liquid. This is largely a subjective judgment, but to some extent it can be analyzed into artistic factors. The impression may, for example, be provided by an essentially columnar shape, with the vertical axis emphasized. Yet some modification of a solid, straight-sided column seems called for, in order to convey the multipartite and undulating qualities of a liquid. Interior markings, which may indicate droplets or at least suggest that the substance is composed of semi-independent entities, may help to fill this need. Or it can be achieved through a fluidity of outline—although here purely stylistic factors may falsely convey the sense that a liquid is portrayed. Splashing may be realistically shown, or subtly suggested by scrolls or other devices, as another modification of the basic columnar design. There is no set answer as to how the impression of a falling liquid may be obtained, but artistic conventions of the sort just discussed provide possibilities which, it will be seen, were utilized by the ancient Mesoamericans. If the motif combines these three types of evidence—associational, comparative, and impressionistic—the combination of factors becomes quite telling. This constitutes

the artistic approach to the identifications. Additional evidence, concerning current beliefs about Mesoamerican religion, symbolism and glyphs, is discussed in Appendix A. Such data are, however, properly to be regarded as supplementary support, and the identifications should be able to stand on their own artistic merits. Methodological problems connected with the two approaches are considered in Appendix B.

#### NON-MAYA MURALS, SCULPTURES, AND CERAMICS

Teotihuacán-like motifs occur in the murals of Tomb 105, Monte Albán (Entry 14), suggesting the portrayal of water. Blue drops fall from the hand of a hunched-over figure who also carries a container of Teotihuacán type. A probable speechscroll rises from the mouth of this figure; it is narrower than the scroll from the mouths of the corresponding figures at Teotihuacán and gives no indication of being water. Elsewhere in the scene, in the headdress of a partially comparable figure, Von Winning's "trilobal drop element" (1947 a, p. 341) appears beneath the upper jaw of a grotesque head (cf. the Tetitla murals, Entry 5). Here, then, water would seem to be shown emerging from the mouth.

Water may stream from the corners of the mouth of a highly conventionalized sky being depicted at the top of Stela 11, Monte Albán (Entry 19, fig. 15, *d*); marked at the end with circles, the representations are in the generalized Mexican water tradition. Comparative evidence tends to support the interpretation that streams of water gush from the mouth of the sky god. On Lápida 1, a Zapotecan monument in the Museo Nacional (Caso, 1928, fig. 81), a similar but more stylized representation of the *fauces* of the sky is flanked by two scrolled designs which are edged with circles. The designs on the lapida are surely water; corresponding ones, blue in color, occasionally appear in the codices of southern Mexico (e. g. Vienna 16). Although these scrolls do not issue from the mouth, their positional association is similar to that of the motifs on Stela 11 and reinforces the belief that water is portrayed there.

The sky god on Stela 11, Monte Albán, and a being at the top of Monument C, Tres Zapotes (Entry 21, pl. 74, *c*), are similar in appearance. Each is a grotesque mask; the lower jaw is not depicted; the teeth of the upper jaw are prominent. A curling design occurs below the teeth of each, apparently representing a forked tongue. And, corresponding to the probable streams of water which issue from the corners of the mouth on Stela 11, two plain elements on Monument C extend below the sides of the mouth. These have been tentatively described by Stirling (1943, p. 18) as the halves of a broad bifurcated tongue; but, barring duplication, this possibility is disposed of by

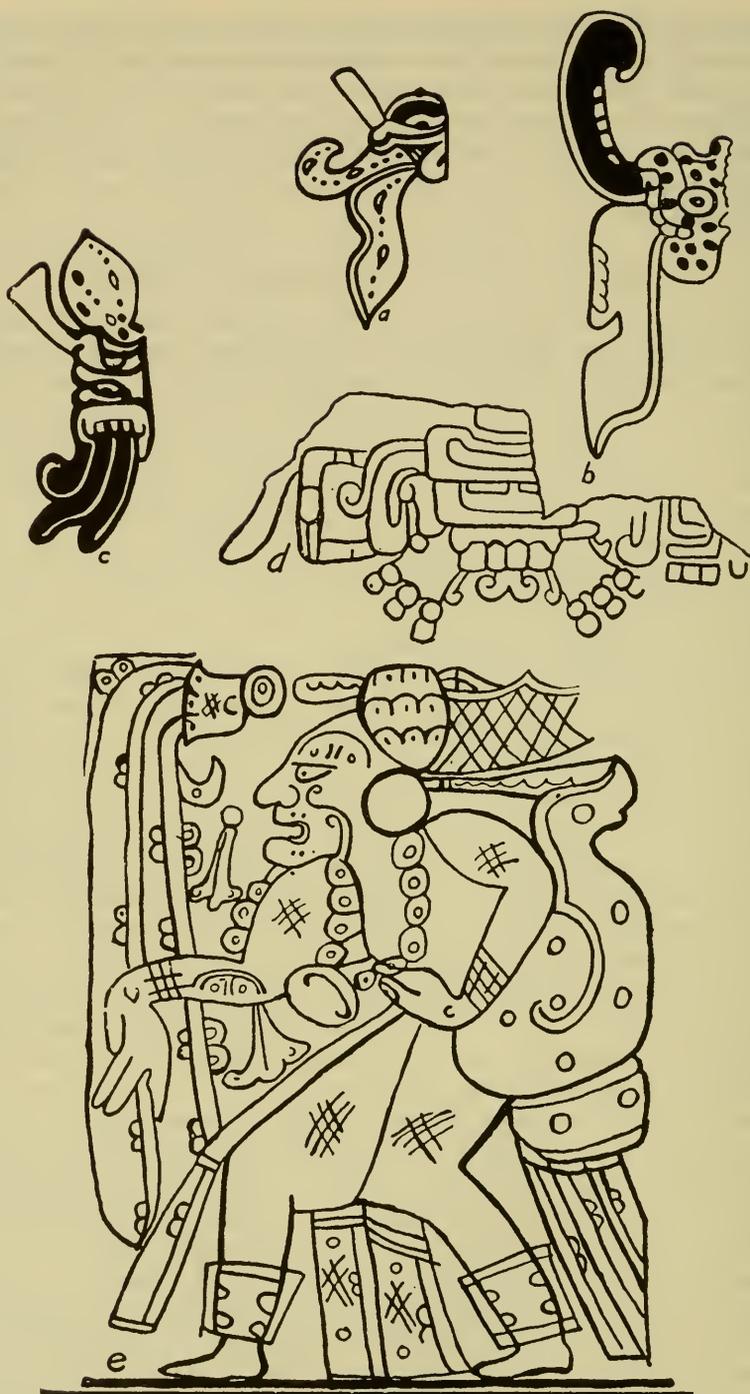


FIGURE 15.—*a-c*, La Ceiba (Entry 60). *d*, Monte Albán, Stela 11 (Entry 19). *e*, Chama (Entry 58).

the curling design previously referred to. Extending below the forked tongue appears a serrated, circle-tipped (?) design that suggests the *atl*like representation on Stela 11. In view of the other similarities between the beings on Monument C and Stela 11, and in the light of the evidence that strongly indicates water to be portrayed falling from the mouth on Stela 11, it seems probable that the corresponding designs on Monument C likewise signify water.

This supposition is supported by the occurrence on Monument C of additional designs that seem to represent water. A scrolled panel along the base of sides A and B is identified as water by Stirling (1943, pp. 18-19). Pecked out dots appear in connection with the scrolls. Larger scrolls, on sides C and D of the monument, give a subjective impression not unlike splashing waves of water, and one scroll, edged with circles, corresponds closely to scrolls depicting water in the Mexican codices and on Lapida 1, Monte Albán (Stirling, 1943, pl. 6, *c*, observer's right). On sides A and B other scrolled designs, formed by a series of raised parallel lines with marginal embellishments, have a more generally vertical position and, perhaps, portray falling water (pl. 74, *c*). In several instances these representations are associated with probable serpent heads, giving rise to the suggestion that they resemble the coils of plumed serpents (Stirling, 1943, p. 19). When associated with the serpent heads, the designs seem occasionally to contact them at the mouths rather than at the necks, as would appear more fitting if they truly depict serpent bodies. Probable tusks and tongues below the serpent mouths seem to eliminate the possibility that the scrolls in question are to be identified as flamboyant versions of these objects. Accordingly, water may also fall from the mouths in these instances. These possible streams of water sometimes contact the scrolls along the base of the monument, suggesting the descent of water upon surface water. The theme of death and destruction may also occur, for armed human figures, one clearly dressed in a warrior's costume, appear on the monument against a background of the waterlike designs. Certain of the individuals are falling head downward, recalling the figure, eye closed in death, that falls in this position in a stream of water on Madrid 32b, as well as being reminiscent of portrayals on Borgian 27, 28, 31.

Designs that seemingly portray water occur on Stela 5, Izapa (Entry 17). In appearance and concept they are strongly reminiscent of the representations on Monument C, Tres Zapotes. Stirling (1943, p. 64) identifies as water a scrolled design along the base and part way up the right-hand side of Stela 5. The row of scrolls is marked by occasional dots—less frequent but stylistically similar to those placed within the scrolls on Monument C—and at the end unites with a raised band, which continues along the base of the design. On the

upper right-hand side of the stela, in virtual contact with the upper end of the scrolled band, essentially vertical lines which also seem to represent water apparently issue from the open jaws of a monster. Details are not clear, but this downward pointing-head (cf. Dresden 74) may be a multiple head attached to a U-shaped serpentine body. It appears that on both Stela 5, Izapa, and Monument C, Tres Zapotes, artistically similar water falls from serpent or monster mouths upon artistically similar water bands. The scrolled line and accompanying horizontal band which appears at the top of surface water on Laud 1 (fig. 14, *a*) offer a telling correspondence to both monuments, especially Stela 5.

A series of bands which descend from the upper jaw of an anthropomorphic figure on Stela 11, Izapa (Entry 18), may also represent water.

A water band, containing fish, occurs on Stela 1, Izapa (Entry 16, pl. 75, *a*), and here again water seems to fall upon it from above. A leaning anthropomorphic figure, described by Thompson (1941, p. 26) as seemingly "a Tlaloc, with water bag on his back, lifting a rain barrel," stands on the water. The descent of water from a container apparently occurs twice on the stela, while an object within a falling stream and, possibly, water from the mouth and eye are also present.

The figure grasps an object with clearly portrayed woven surface, probably best identified as a basket. On or within it is a conventionalized serpent. Below the basket, apparently falling in a stream of water, is a grotesque face. It has a vaguely glyphlike quality. In the probable water beneath the face are sharply curved diagonal lines and, flanking them, somewhat wider bands that terminate in upturned scrolls. The scrolls, similar in execution to those at the ends of the water band, might represent splashing water. As will be seen, a scroll of this type frequently occurs in the same position in probable representations of water in Maya sculpture.

Partially surrounded by a bewildering series of scrolls, a container with constricted neck, flaring rim, and crosshatchings occurs on the back of the figure on Stela 1. The crosshatchings may indicate decorations incised on pottery, a carrying net, or a woven basket. Flanked by straight bands, curving diagonal lines appear a short distance beneath the container. The diagonal lines correspond to those beneath the probable basket and somewhat resemble the undulating bands of surface water along the base of the stela. Could the use of diagonal lines indicate rain driven by the wind? It seems probable, in any event, that a stream of falling water is once again depicted. In this stream, perhaps balancing the grotesque head beneath the basket, a small face is faintly discernible. In profile, it wears a smug, self-satisfied expression and is placed directly above

a horizontal band. Below the band appear two elements which have a generalized resemblance to outward-pointing feet or legs or to a fish tail.<sup>15</sup> Atop the head, a knotted headdress is ropelike or serpentine in appearance.

The scrolls which surround the container separate it from the supposed stream of water. This container, like the one carried in the figure's hands, is not inverted. However, the crosshachure, like the loosely woven design, may indicate that a basket is depicted, and in such a case a stream of water would naturally flow from it. On the other hand, the maze of scrollwork surrounding the container has an appearance not unlike piled up clouds, and it is possible that the stream indicates rain falling from the clouds rather than directly from the container. Prominent among the scrolls is a birdlike object, resting upon the container. Heavy curves may indicate its crest,<sup>16</sup> tail and wing, and a sunken dot its eye. This dot may, however, be a pitted erosion. Another dot, slightly raised, appears below the first and is connected with it by two slightly incised, barely perceptible parallel lines. A tear, or even actual water from the eye, may possibly be represented.

A remarkable correspondence to Goddess I, as pictured on page 74 of the Dresden Codex, exists on this Izapa stela (cf. pls. 72, 75, a). The goddess has the hands and feet of a jaguar, while the feet of the figure on Stela 1 represents the conventionalized heads of animals, possibly snakes. There is a grotesque, perhaps animal quality to the face of each figure. Goddess I wears a knotted snake headdress and, as has been seen, a similar headdress occurs on the small figure in one of the streams of water on Stela 1. A grotesque head forms part of a differently knotted headdress worn by the main figure on Stela 1. A scrolled object descending from the mouth of this head is quite possibly a tongue, although it could be water and if so would correspond to the water from the mouth of the knotted snake in Goddess I's headdress. A realistic representation of a snake lies across the upper arms of the figure on Stela 1. Among the most striking of the correspondences, notwithstanding the positional differences of feet and arms, is the leaning posture assumed by Goddess I and the figure on Stela 1. Water, or perhaps a blast of wind, may be indicated by a raised area in front of the mouth of the principal figure on Stela 1. Water from the figure's mouth would find no parallel with Goddess I on Dresden 74 (although cf. Madrid 32b), but it would indicate the

<sup>15</sup> Cf. tails of fish in the water band on Stela 1 and hanging from the sky band on Stela 5, Izapa (Stirling, 1943, pl. 52). Cf. the possible fish tail in the headdress of the principal figure on Stela 1. If outward-pointing feet are portrayed, this is their only known occurrence at Izapa.

<sup>16</sup> A crest, somewhat similar in appearance, appears on the bird carved on Altar 3, Izapa (Stirling, 1943, pl. 59, a).

existence of this association, which is displayed so prominently on Dresden 74.

Correspondences of uncertain significance also exists between the figure on Stela 1 and the black god at the bottom of Dresden 74. A serpent head, perhaps symbolic of rain, occurs at the lower end of the breechcloth of the figure on Stela 1, while the rear portions of the breechcloth of the black deity on Dresden 74 is marked with dots on a bluish-green background—in appearance a perfect counterpart of water pictured on the same page. The emergence of water from between the legs may be symbolized in both cases. A possible bird has been seen to rest on the container at the back of the figure on Stela 1, and an eagle or vulture (Tozzer and Allen, 1910, p. 335; Tozzer, 1941, p. 147) perches atop the head of the black god on Dresden 74.

Monument 2 at Cerro de las Mesas (Entry 15) and Stela C at Tres Zapotes (Entry 20) show the weeping eye motif, which may portray or symbolize water from the eye. The conventionalized face on the Tres Zapotes sculpture is that of the "Olmec" jaguar. De Borhegyi's cone-shaped effigy prongs from pre-Classic Kaminaljuyú seem to belong to the same class of portrayals (Entry 23). The effigies are identified as the Kaminaljuyú rain god, with possible relationships to the Olmec feline and "baby face" deities (De Borhegyi, 1950 b, pp. 64-65). The Kaminaljuyú figures are described as having "deeply grooved 'tear streaks'" beneath the eyes. It may be worthwhile to note that in De Borhegyi's fig. 5, *d*, the so-called goatee is indicated by parallel grooves which are virtually identical in execution to the tears and could indicate water passing beneath the tongue from the mouth. Here, however, the speculation is very much greater, and the partially corresponding designs on a number of Tlaloc effigy vessels seem more probably to arise from elaborate treatments of beards, tusks, or tongues.<sup>17</sup> The most which can be reasonably conjectured is a convergence wherein these objects took on certain attributes normally accorded water.

#### MAYA MURALS, SCULPTURES, AND CERAMICS

##### GENERAL CONSIDERATIONS

The search for water on the Maya monuments meets certain initial handicaps but is not without its compensatory aspects, as well. Methodological problems are discussed in Appendix B, but two special factors merit attention here. (1) Partly because of its blue or green color, water is easily identified in the Maya codices, but the aid of color is lacking on sculptures which have long been exposed to the elements.

<sup>17</sup> Cf. De Borhegyi, 1950 a, fig. 1, a, as just one of a sizable number of examples.

The colors blue and green, furthermore, were largely outside the working tradition of the Maya potters,<sup>18</sup> and it seems probable that representations of water on polychrome ceramics would therefore be executed in one of the colors prescribed by the craftsman's art. Blue and green do occur prominently in mural art. Representations in these colors which might indicate water are, apparently, unknown. (2) Although the search for water is systematized along different lines, an initial idea as to what to look for was provided by the pioneer work of Spinden. His recognition of four pendant designs at Quirigua, Palenque, and Yaxchilan as floods of descending water comparable to that on Dresden 74 was basic (Spinden, 1913, pp. 66-68), and he has also made important references to "flood symbols" at Piedras Negras (Spinden, 1928 b, pp. 23, 29, 30). Accordingly, credit for the original identifications belongs to Spinden. However, he did not develop the case systematically, and it has remained in the realms of impressionism and intuitive judgment.

Interrelationships of various representations identified as water in Maya art are given in figure 16. By means of certain conventionalizations, an attempt is made to visualize the more important artistic and conceptual relationships. By referring to this chart in connection with the text, one may more readily grasp the logic behind the identifications. The necessity of keeping the chart reasonably simple and intelligible imposes practical limitations, preventing the inclusion of a great deal of supporting evidence. The conventionalizations employed are explained in Appendix D, "Notes on Figure 16" (pp. 384-386).

Established portrayals of water in Mexico as well as in the Maya codices are held to provide precedents upon which designs in Maya art are to be identified as water (fig. 16). It is true that this crossing of spatial cultural boundaries weakens the argument somewhat. Nevertheless, the recognition that figures at Teotihuacán sprinkle water from the hand establishes the presence of this association on a comparatively early archeological horizon, and it is increasingly realized that within Mesoamerica the primary cultural changes took place along chronological rather than areal lines. The occurrence of specific assemblages of Teotihuacán traits at Kaminaljuyú, and of Teotihuacanoid ceramic features such as cylindrical tripods in the Peten, should be borne in mind in this connection.

The Mexican portrayals of water which are of particular importance in establishing precedents are those at Teotihuacán (the fringing of water with flowers, water from a bird beak, water from the hand, and—not explicitly shown in fig. 16—water from a Tlaloc mouth); in Aztec sculpture (Entry 1) and Laud 1 (water that falls from a container

---

<sup>18</sup> Due in part, perhaps, to the difficulties in finding pigments of these colors which would withstand firing?

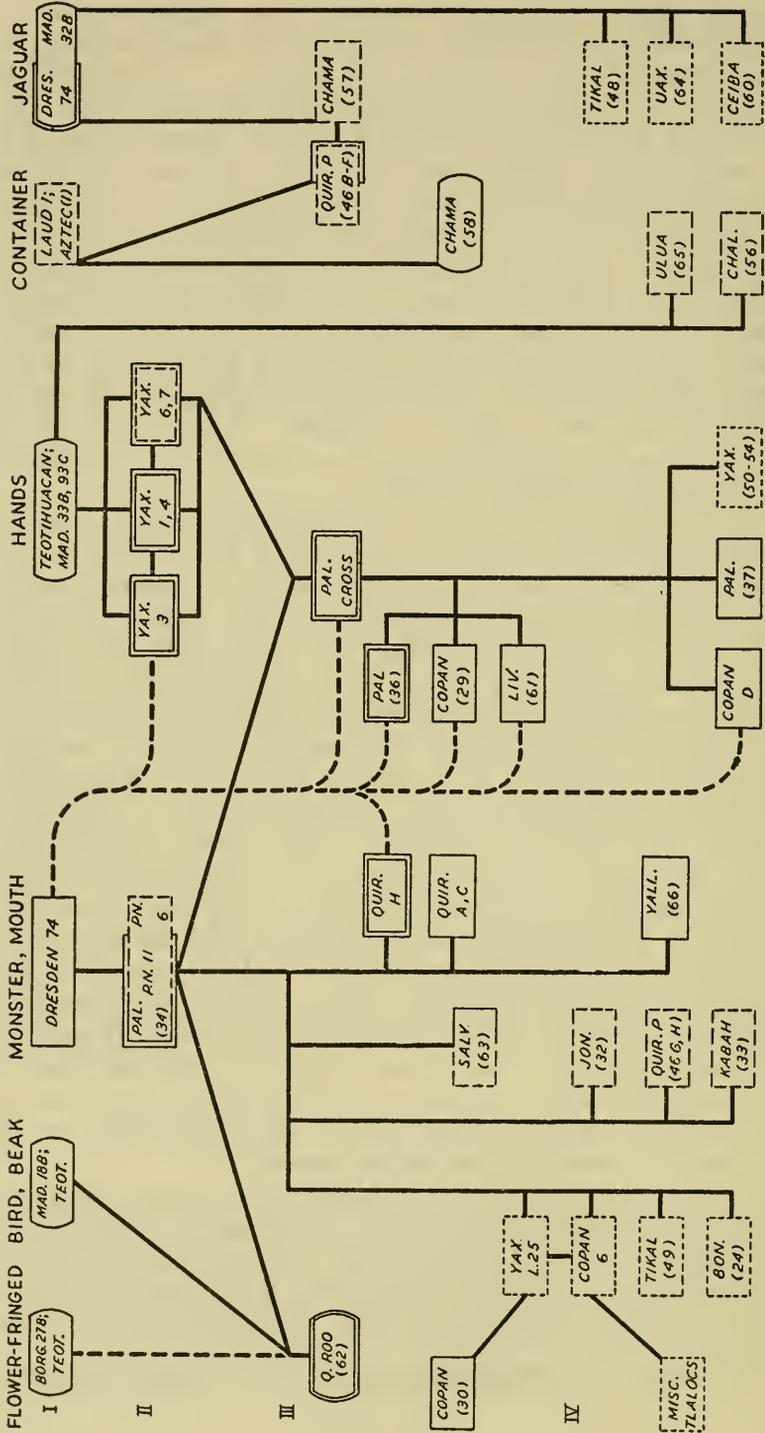


FIGURE 16.—Interrelationship of representations. (See Appendix D, "Notes on Figure 16.")  
(See key on opposite page)

- CONCEPTUAL ASSOCIATIONS
- NOTABLE ARTISTIC RESEMBLANCES
-  COLUMNAR STREAMS
-  DIVIDED STREAMS
-  FANG-TONGUE-WATER (?) MOTIF
-  REPRESENTATIONS OF  
DIFFERENT ARTISTIC TYPE
-  ,  YAX-KAN-COMPLETION GLYPH COMPLEX (WITH  
COLUMNAR AND DIVIDED STREAMS, RESPECTIVELY)

Key to figure 16.

and divides into semidistinct streams); and on Borgian 27, 28 (again the fringing of falling water with flowers). Actually, certain of the identifications receive additional support from comparable although less frequent portrayals in the Maya codices (water from the "hand" on Madrid 33b and from the beak of a bird on Madrid 18b). Such occurrences, both in the early Classic at Teotihuacán and the late Maya codices, indicate that the associations in question had a respectable time depth in Mesoamerican religion, and were sufficiently deep-rooted to survive over the centuries. However, no Mayan or Mexican codex portrayals are known to show water from Tlaloc's mouth, and to this extent the latter association must be deemed a less virile one in Mesoamerican religion, with correspondingly less likelihood of being indicated by designs of unknown meaning which are associated with Tlaloc mouths.

#### HIGHEST PROBABILITY (A) <sup>19</sup>

Although great, the role of Mexican portrayals in providing precedent for the identifications in Maya art should not be overstressed. The most important single source of support, Mayan or Mexican, is the scene on page 74 of the Dresden Codex (pl. 72). It is cosmopolitan in the associations it depicts and, even more important, the portrayal of the stream from the sky monster's mouth is highly characteristic in execution.<sup>20</sup> It is of great significance, therefore, when closely comparable designs are found elsewhere in Maya art. If only chance factors were involved, it is impossible to estimate the odds against the repeated occurrence of this type of design with the mouth, but they are surely large. However, approximately 60 percent of the known examples do occur with the mouth,<sup>21</sup> and with a single exception (Entry 36) the other known examples occur with the hand (directly or in intimate though indirect association). Although the sample is small, this surely adds up to the conclusions that the design was not employed randomly and that, accordingly, it had some connotative value consistent with its usage on Dresden 74 (water) and also consistent with objects which might be associated with the hand (among which, on the strength of the Teotihuacán murals, water

<sup>19</sup> With one or two exceptions, this section includes discussion of all the representations in Classic Maya art which seem to have the greatest possibility of depicting falling water. Less likely designs are labeled "Probability B." In a few instances, plus signs are added to the tabulated entries of the B category. See Appendix C, "Notes on the Tables."

<sup>20</sup> Elsewhere in the Dresden Codex, the same artistic treatment of water occurs only on pages 43b, 67a, 73.

<sup>21</sup> The sample is small, lessening the effectiveness of this type of reasoning. The percentage, as given above, is based on 8 designs, 5 of which emerge from the mouth. This association may or may not hold true for a ninth example, the resulting range in percentage being from 56 to 67. These 9 examples occur at five different sites. The wide distribution would seem to increase the validity of the sample, as it tends somewhat to rule out the possibility that slavish imitation, without regard for basic concepts, had taken hold of the artists. If the search is sufficiently widened to include the generally similar art forms which, like the examples just discussed, are columnar in shape (table 4), the sample is increased (22 to 27). Of these 11 to 14, approximately one-half, emerge from the mouth, while with only two exceptions the remainder are associated with either the hand or head.

must be included). This is an incomplete statement of the case, however, for other lines of evidence offer powerful support.

Not only the water from the monster's mouth on Dresden 74 but the monster itself is highly distinctive. It is easy, therefore, to recognize closely corresponding artistic forms and legitimate to identify them as the same mythological creature (i. e., they embody much the same set of concepts). It is possible, accordingly, to recognize counterparts of the Dresden 74 monster at Palenque, in House E (Entry 34, fig. 17, *a*) and at Piedras Negras, on Stelae 6, 11, 14 (Entries 40-42, fig. 17, *b, c, d*) and 25.<sup>22</sup> As on Dresden 74, the body of each monster is a band of astronomical symbols; the front leg dangles similarly, and the hoof is cloven. The front head is crocodilian or serpentine in appearance, and it is downward pointing. Unlike Dresden 74, where the monster is single headed, each of the Piedras Negras and Palenque monsters has an inverted head, recalling that of the Long-nosed God, as a rear head, and a bird may be placed at the center of its body.<sup>23</sup> The rear head is shown with a fleshless, bearded lower jaw, and the forehead, too, tends to be fleshless. A distinctive triple symbol of shell, "leaflike" object, and Saint Andrew's cross (Spinden, 1913, p. 53) appears at the skullcap. The rear leg dangles in a way reminiscent of the front one.

In view of the other striking correspondences that exist, the presence of flamboyant, generally columnar designs below the mouths of the front heads of most of these monsters would seem to be anything but fortuitous. Such designs occur on Dresden 74, House E in Palenque, and Stelae 6, 11, and perhaps 14, at Piedras Negras. The precedent of Dresden 74 indicates that the other designs are also water. They meet the artistic requirements of the present study with some success. The impression of a falling liquid is sufficiently conveyed (compare the

<sup>22</sup> Generally comparable monsters are of frequent occurrence in Maya art. The Dresden-Palenque-Piedras Negras monsters do form somewhat of a group, however, as opposed to the manifestations of the beings usually encountered in Classic art. The immediate significance of this is that it underscores the specific identity of the monsters under discussion. It is not without additional interest, however, that monsters from the Usumacinta tend, in various features connected with the body, head and legs, to resemble those in the Dresden (and also the Paris) codices more closely than they do their counterparts in the Peten and the Motagua. (See Maler, 1901, pl. 26, No. 2, and Thompson, 1939, fig. 4, *d*, for additional close correspondences in the treatment of the dragon; also Maler, 1903, pl. 69, at the upper Usumacinta site of Yaxchilan.)

<sup>23</sup> According to Spinden (1917, p. 171), the body of the two-headed monster is vertical on the Piedras Negras stelae. The body he considers to be formed by astronomical hands which rise on either side of a seated figure and join above its head. Supporting his view is the presence of a Serpent Bird atop the band as it passes over the figure's head (cf. the similar monster in House E, Palenque). This is not borne out by the appearance of the designs, however. The vertical bands terminate abruptly a sizable distance above the monster's heads, while portions of the horizontal body can be seen beneath an overlay of objects which rise from below. The horizontal band bears astronomical markings. Actually, the question of whether the bodies are horizontal or vertical is somewhat academic, as the concept of a sky monster is surely present in both types of bands. Viewed realistically, the representations on the Piedras Negras stelae may represent throne decorations rather than actual sky monsters. The point being made—important inasmuch as it emphasizes the resemblances to the sky monsters on Dresden 74 and in House E, Palenque—is that whatever else may have been intended or implied, the concept of a horizontal body of sky symbols was also present in the Piedras Negras type of monster.

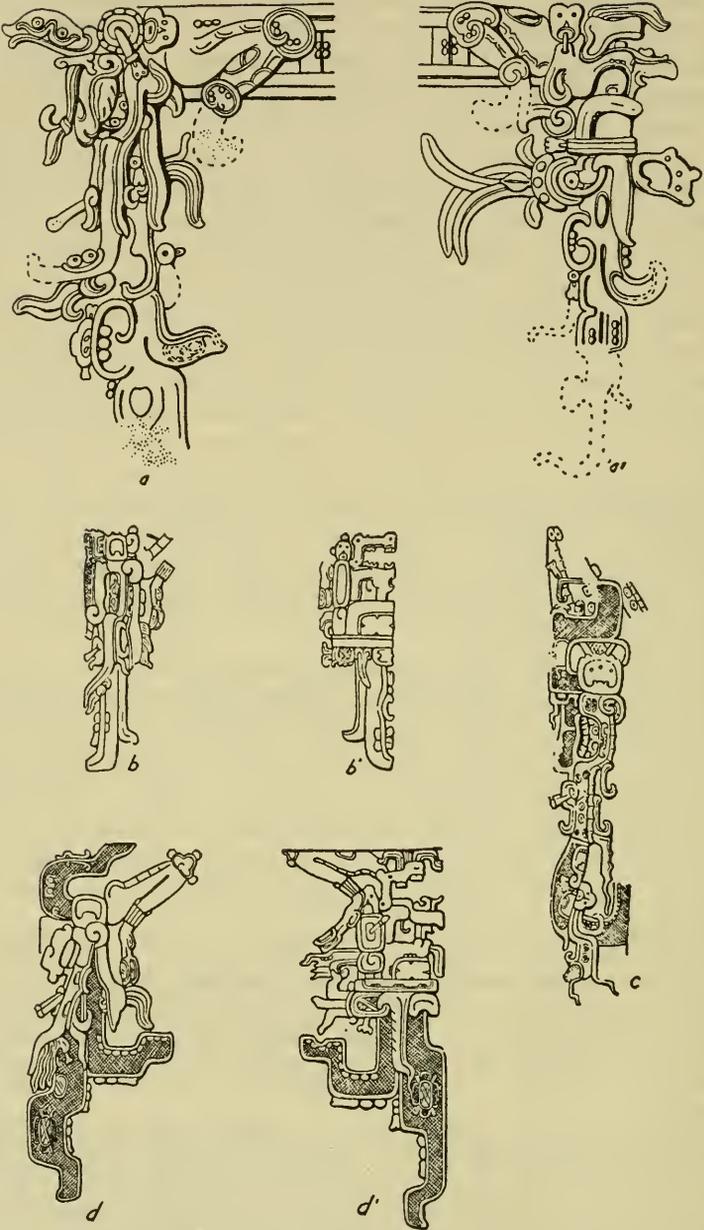


FIGURE 17.—*a*, Palenque, House E (Entry 34, front head). *a'*, same, rear head. *b*, Piedras Negras, Stela 6 (Entry 40, front head). *b'*, same, rear head. *c*, Piedras Negras, Stela 14, (Entry 42, front head). *d*, Piedras Negras, Stela 11 (Entry 41, front head). *d'*, same, rear head.

sections, "Artistic Approach to the Identifications" and "Artistic Typology and Miscellany"). Especially at Piedras Negras, it is true, the outlines do not closely resemble that of water on Dresden 74. But Mexican examples showing the descent of water in dividing streams (pl. 74, *b*, fig. 14, *a*) offer analogies to the shape of the design on Stela 11, Piedras Negras (fig. 17, *d*).

Artistic connections of an indirect but telling sort nevertheless exist between the designs emerging from the mouths of the Palenque-Piedras Negras sky monsters and the water from the mouth of the monster on Dresden 74. To understand this, it is necessary to look to the inverted rear head of the dragon. From its skullcap or triple symbol there descends, in every instance, a design which is virtually identical to that which issues from the mouth of the front head (fig. 17, *a'*, *b'*, *d'*). The fact that it is so similar suggests that the same object is intended, viz, a stream of falling water. Nevertheless, a precedent for such an identification has not been found among the established representations of Mayan or Mexican water. The problem of identification is accordingly difficult, and detailed discussion of it is postponed until the section, "Balanced Water and Vegetation." The artistic identity of the designs from the skullcap of the rear head and the mouth of the front head must, in any case, be recognized, and the fact that the two heads occur on the same body constitutes an important conceptual linkage.

A head identical to that of the rear head of the monster is sometimes depicted, unattached to a body. The triple symbol is an important diagnostic. Sometimes the head is inverted, corresponding to the rear heads of the Palenque and Piedras Negras sky monsters. Sometimes it is upright (cf. Spinden, 1913, figs. 52, 83). Within the Temples of the Cross and the Sun at Palenque, both the inverted and the upright detached heads appear, either in different sculptured panels or in different parts of the same tablet. A manifestation of the dragon with its front and rear heads is indicated in such examples, the upright anthropomorphic head balancing the inverted one and thereby substituting for the usual serpentine front head.

This brings us to one of the most important steps in the development of the argument for the portrayal of water in Classic Maya art. Columnar designs fall from the detached, inverted heads, corresponding to generally similar art forms that descend from the sky monster's rear head (cf. figs. 17, *a'*, *b'*, *d'*, 18, *b*). Similar designs fall from the mouth of the detached upright heads. Thus, Long-nosed-God-like heads seem to substitute for the serpentine heads in the belching forth of water (cf. figs. 17, *a*, *b*, *d*; 18, *a*, *c*). The conclusion that it is water which passes from the mouth is strongly reinforced by the fact that in figure 18, *a*, *c*, the columnar designs are strikingly similar

to the water which descends from the mouth of the sky monster on Dresden 74 (cf. pl. 72). An analysis of these correspondences is made in a subsequent section, "Artistic Typology and Miscellany." It follows from all this that the detached heads derive their associational precedent for water from Dresden 74, via the complete sky monsters at Piedras Negras and Palenque. But the latter, in turn, derive additional support from Dresden 74, via the detached monster heads at Palenque.

The detached monster heads, from whose skullcaps and mouths water may be falling, are typically held in the hands of human figures. In figure 18, *a*, it will be seen that the hands are in even more intimate contact with the object from the mouth than with the head itself. Perhaps they may be thought of as an actual source of the water, in which case, by the process of duplication, the artist showed dual sources for the falling stream—hands as well as mouth. This is speculative, although some support may be derived from partially comparable representations at Copán (Entry 29, pl. 76, *b*, *c*) and Livingstone, Guatemala (Entry 61, fig. 18, *e*). In the Copán specimens, the hand is identically placed in relation to the head and "water." Even making no allowances for portrayal in the round instead of two dimensionally, the object from the mouth recalls water from the monster's jaws on Dresden 74 in a tantalizing yet insistent fashion. However, the head lacks a triple symbol and the nose differs from that of the typical rear head of the sky monster. It is not clear, in the Livingstone representation, if a head and mouth is portrayed at the upper end of the waterlike design. A human hand is clearly contacting the "water."<sup>23a</sup> Artistically, the design, again, has close parallels with Dresden 74 and the Temple of the Cross, Palenque. Because they too hark back to the established portrayal of water in the Dresden Codex, the objects from Copán and Livingstone serve to reinforce the association of figure 18, *a*, *b* (Palenque) with the hand. This is to say that because there are several examples of the combined association of the hand with the "water" as well as head, the motif must have been an intentional one rather than resulting fortuitously from carelessness or whim on the part of the individual artist (cf. footnote 21).

A series of columnar designs in the same general artistic tradition, which often fail, however, to display specific resemblances to water on Dresden 74, occur at Yaxchilan (Stelae 1, 3, 4, 6, 7; Entries 50-54; figs. 18, *d*, 19, *a-c*). Closest to the water on Dresden 74 is the design on Stela 3 (fig. 18, *d*). The dividing water shown in figures 14, *a*,

<sup>23a</sup> "The figure holds something in his hand, which may perhaps represent a face or an open jaw, and from which a chain of curling, but pointed, designs runs downward like a stream" (Seler in Thompson and Richardson, 1939, vol. 3, p. 127). Seler also notes the possible association of a Muluc (water) element with this design.

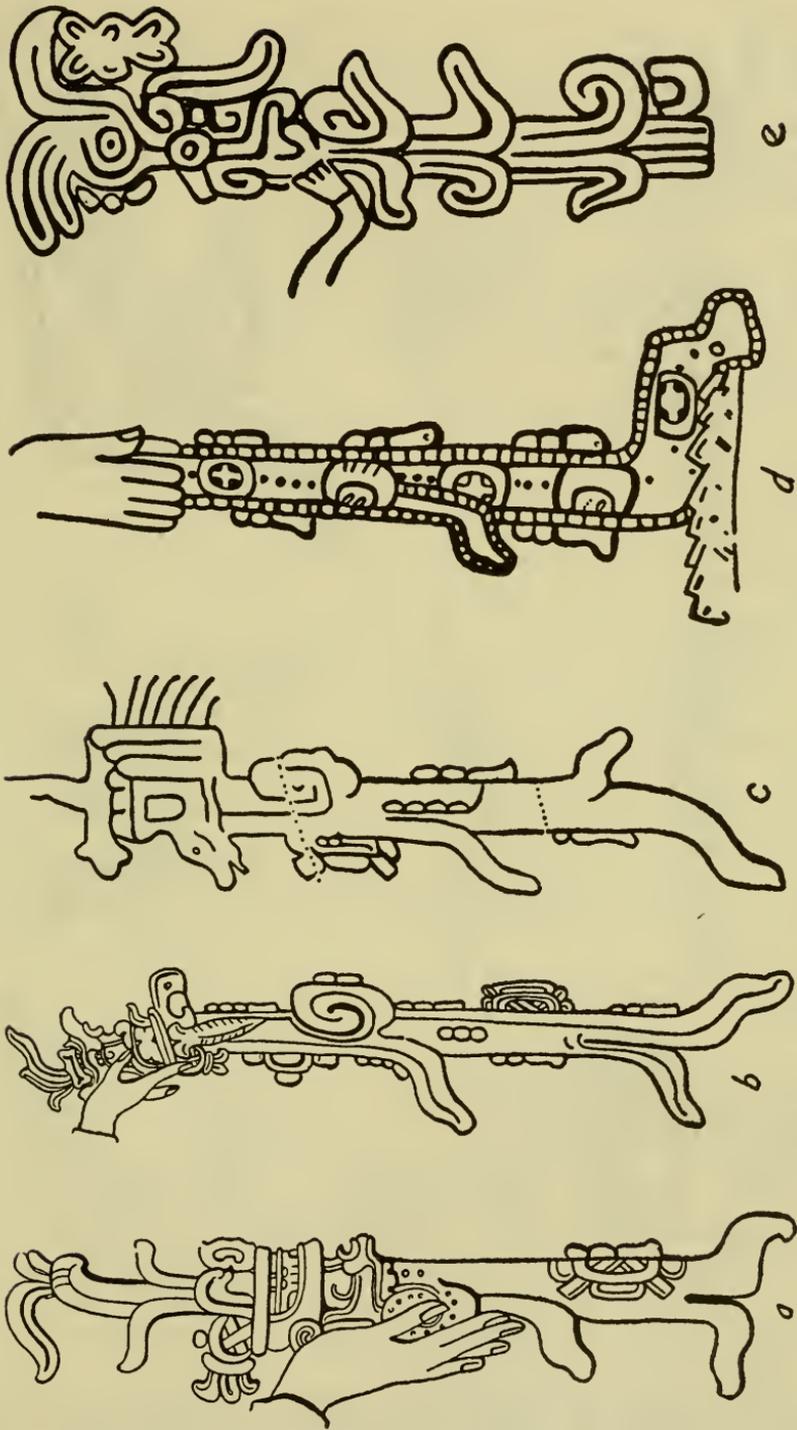


FIGURE 18.—*a, b*, Palenque, Temple of the Cross (Entry 35). *c*, Palenque, Temple of the Sun (Entry 36). *d*, Yaxchilan, Stela 3 (Entry 51). *e*, Livingstone (reported provenience) (Entry 61).

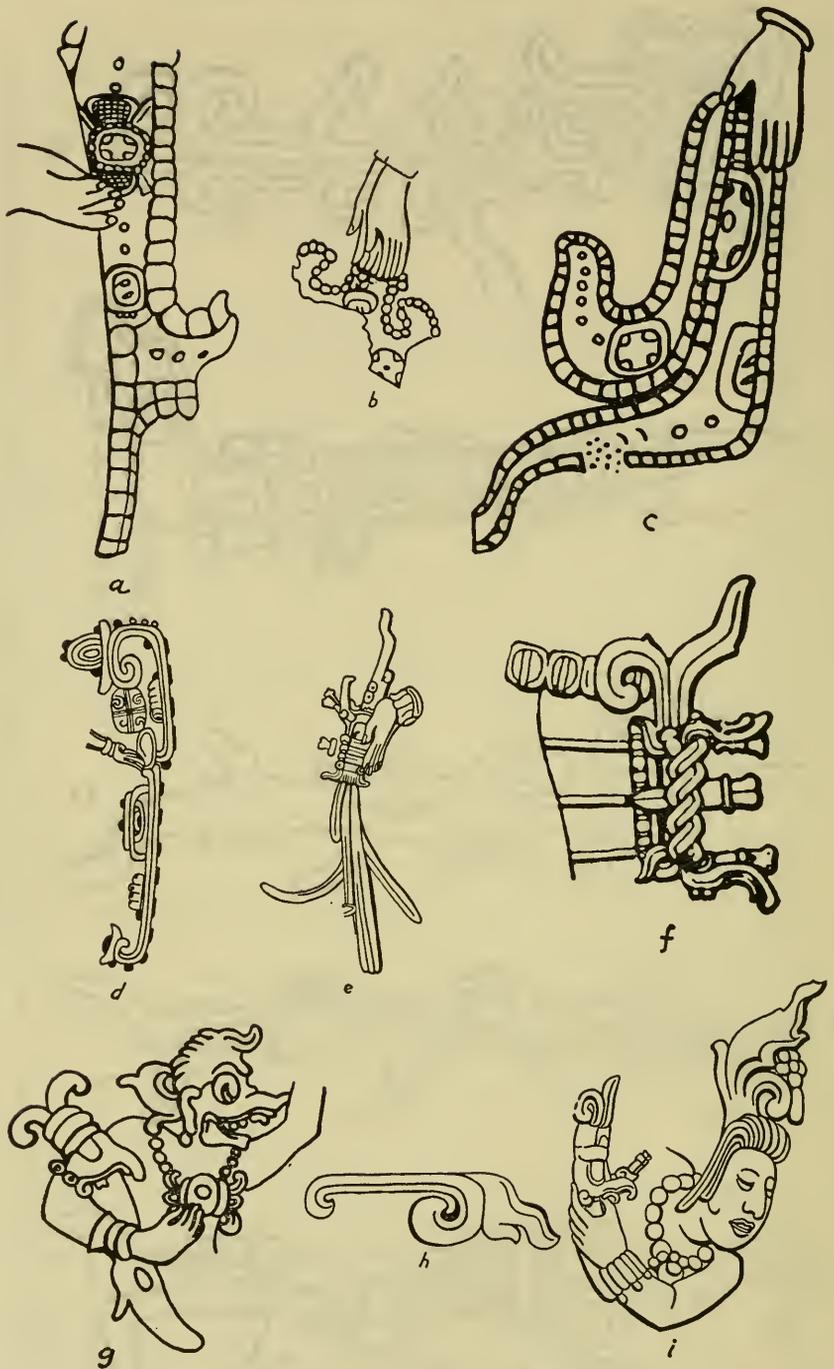


FIGURE 19.—*a*, Yaxchilan, Stela 4 (Entry 52). *b*, Yaxchilan, Stela 7 (Entry 54). *c*, Yaxchilan, Stela 6 (Entry 53). *d*, Uluva Valley (Entry 65). *e*, Palenque, Temple of the Foliated Cross (Entry 37). *f*, Yaxchilan, Stela 1 (Entry 50). *g*, Copán, Stela D, (Entry 26). *h*, Tikal, Temple IV. *i*, Copán, Stela H<sub>2</sub> (Entry 27).

and 17, *d*, is strongly recalled on Stelae 6 and 7 (figs. 19, *b*, *c*). The Yaxchilan designs are of importance here because they fall from human hands held in much the same position as the hands in the previously discussed representations at Palenque and Copán (figs. 18, *a*, *b*; pl. 76, *b*, *c*). No heads appear at the top of these portrayals, however. Teotihuacán and perhaps Madrid 33b, 93c provide precedent for the associations of the hand per se with water.

Waterlike designs descend from the mouths of additional double-headed monsters. Examples at Quirigua take the form of Ceremonial Bars, clearly paraphernalia but apparently treated so as to emphasize the underlying concept rather than mere ornamentation (Stelae A, C, H; Entries 43–45; fig. 20, *a–c*). Front and rear heads are not differentiated in these portrayals, waterlike designs seeming to fall from the mouths of each head. Serpent heads appear on Stelae A and H. Jaguar heads occur on Stela C, according to Maudslay (1889–1902, vol. 2, p. 9), but the absence of spots together with a vaguely atypical aspect suggest the possibility that some rodent may, instead, be portrayed. The Long-nosed God, armed with lance and shield, sits at the top of the “water” on Stela H. He is apparently within the stream, recalling the numerous associations of symbols of war with falling water (Dresden 74, Madrid 32a, Borgian 27). The design below the god is more strongly reminiscent of water pictured on Dresden 74 than is true of Stelae A and C. Lacking the specific attributes of the Dresden 74 sky monster, these double-headed creatures of Quirigua have less claim to the precedent for the portrayal of water than was found to be true at Palenque and Piedras Negras. On the other hand, the resemblance of figure 20, *c*, to the water from the monster’s mouth on Dresden 74 constitutes a tantalizing supporting link.

The emptying of a container is the most frequent of the water associations in the codices. Goddess I, the water pourer on Dresden 67a, 74, has strong feline features. Hence, it is of great interest, in polychrome ceramic art from Chama, to find a jaguar pouring liquid from a jar (Entry 57, fig. 21, *c*). The huge cat wears the collar of the death god, perhaps relating the scene to the death and destruction configuration. The design from the vessel divides into scrolling branches (cf. known water in pl. 74, *b*, fig. 14, *a*).

On Zoomorph P, Quirigua, the same branching treatment characterizes another set of designs that appear to be emptied out of inverted containers (Entry 46b–f, figs. 21, *a*, *b*, 22). Rims are clearly visible except in a single instance, where the container seems to be depicted with its bottom upturned, as if seen from above (fig. 21, *a*). This is the “cartouche” illustrated by Maudslay (1889–1902, vol. 2, p. 18). The anthropomorphic figures holding the vessels are mostly

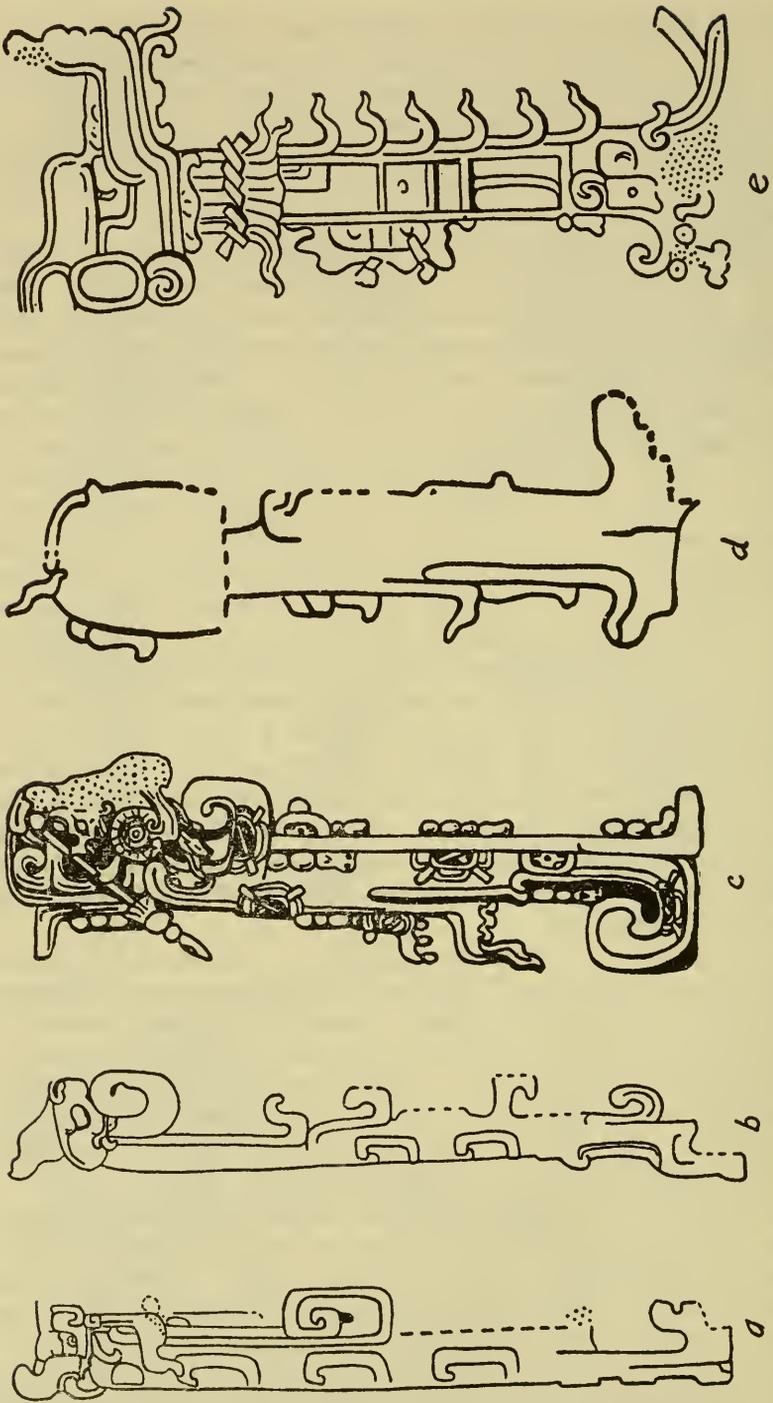


FIGURE 20.—*a*, Quirigua, Stela A (Entry 43). *b*, Quirigua, Stela C (Entry 44). *c*, Quirigua, Stela H (Entry 45). *d*, Finca Encanto (Entry 31). *e*, Yalloch (Entry 66).

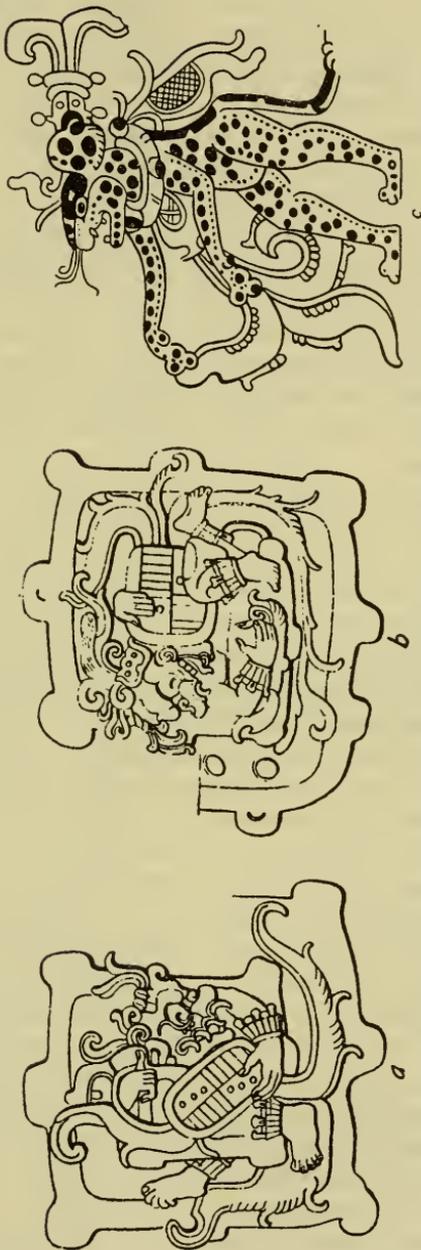


FIGURE 21.—*a*, Quirigua, Zoomorph P (Entry 46b). *b*, Quirigua, Zoomorph P (Entry 46c). *c*, Chama (Entry 57).

grotesque variants of the Long-nosed God. One of them seems, however, to be the same rodentlike (or unspotted feline?) animal met on Stela C, Quirigua, with a probable stream of water descending from its mouth (cf. figs. 20, *b*, 22, *b*). The occurrence at the site of the same animal in different settings, both of which seem, however, to be aquatic, is of no small interest. It constitutes an independent evidence that the same concept is involved. Almost all of these figures on Zoomorph P, animal and grotesque, are hunched over their containers. The configuration of the bending-over rainmaker is recalled (Dresden 67a, 74, Laud 1). One of these crouching postures (fig. 22, *b*) is particularly close to that of God B in the water-pouring act on Madrid 13b. The horizontal portion of two of the figures suggest that they are in the air, looking down at the earth (fig. 22, *a*, *b*), while the legs of one of the otherwise upright beings seem to be floating behind it rather than standing and supporting its body (fig. 22, *c*). The mien of celestial beings, pouring down the rainwaters from the sky, is forcefully captured.

A bending figure shown on Chama pottery appears in connection with a design believed by Dieseldorff (1926-33, vol. 1, p. 27) to indicate rain (Entry 58, fig. 15, *e*). A wavy line, which may with confidence be identified as water, is depicted at the top of a curious composite object. Apparently a water container, formed of a mollusk shell with an artificial extension, is indicated. It seems to be attached to the back of an aged personage (God N) whose stooped shoulders support it. Slanting lines, marked with dots, appear beneath the spire of the shell. This is not the characteristic portrayal of water as it is recognized on the Maya monuments, but it has close analogies to the typical representations of rain in the Dresden Codex. Perhaps rain is depicted, falling from the bottom of the water container which the figure wears on its back. Compare the possible emergence of water from the spires of mollusk shells at Teotihuacán (Entry 2).

Markings akin to those beneath the spire of the mollusk shell appear between the legs of the figure on the Chama vessel (fig. 15, *e*). This presumed existence of a breechcloth with waterlike markings is reminiscent of the back portion of the black god's breechcloth on Dresden 74 (pl. 72). Water may be symbolized or, perhaps, actually depicted. An elongated design in front of the figure is similar in appearance. It seems to emerge from a small object which could indicate a cloud (cf. Dresden 35c and Förstemann, 1906, p. 173). A cloud, if such it be, may reappear as the source for a stream of water on a tablet at Finca Encanto, Chiapas (Entry 31, fig. 20, *d*). This design is of particular interest because of its close artistic correspondence to probable water from the mouth of the serpent on Stela H, Quirigua (fig. 20, *c*).

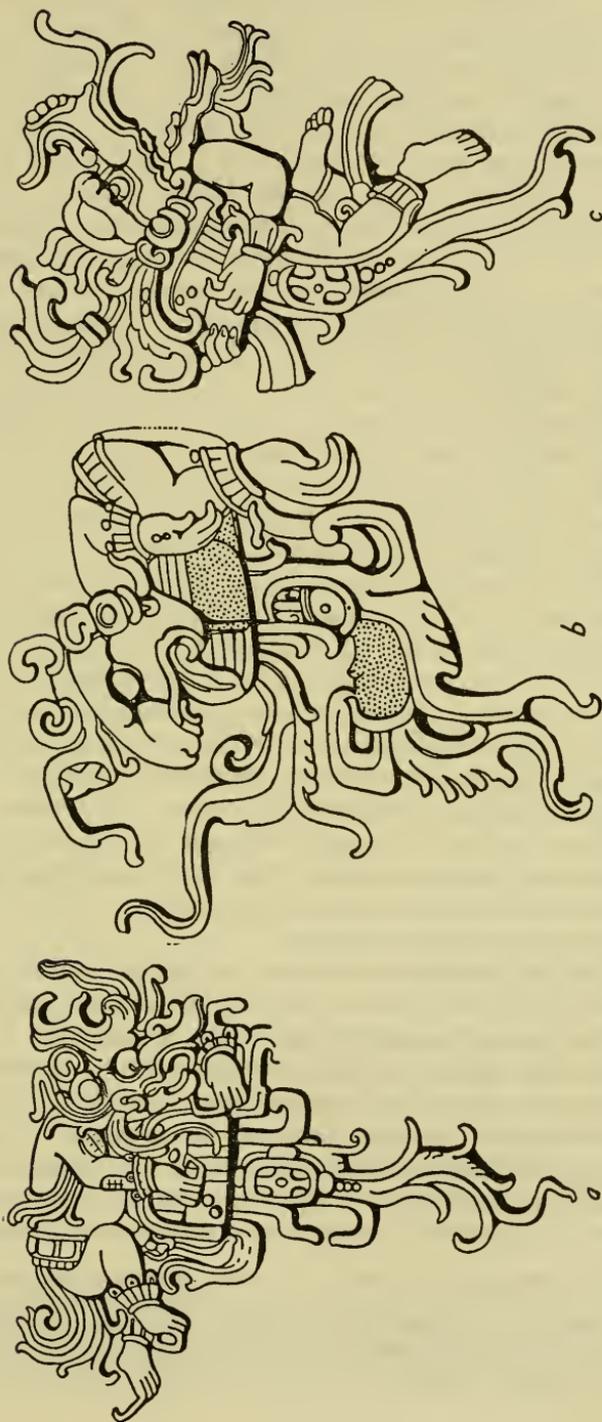


FIGURE 22.—Quirigua, Zoomorph P. a, Entry 46d. b, Entry 46e. c, Entry 46f.

Remarkable correspondences to the Mexican portrayal of water exist on a polychrome plate from Quintana Roo (Entry 62, pl. 76, *a*). At widely spaced intervals the essentially columnar design is edged with fleur-de-lis-like elements, probably to be identified as flowers although highly conventionalized bones could be intended. This marking is duplicated on streams of water in the Borgian Codex (pl. 73, *b*, center). In conjunction with the faintly scalloped or serrated edges of the design, it nicely conveys the impression of falling water. Dots and circles appear frequently within the design (cf. certain portrayals of water at Teotihuacán in this respect, as well as in the apparent fringing of the design with flowers). Various objects seem to be falling in the water. The stream itself emerges from the beak of a bird (cf. Madrid 18b and Entries 8, 11, 13, Teotihuacán). Realistically treated, the bird head is clearly the counterpart of the serpentine or saurian head of the Maya sky monster.<sup>24</sup> The descent of water from the mouth of this monster is vividly recalled.

A final trait, shared by a number of the representations that have been discussed, seems to constitute a "clincher" for the argument that water is portrayed. The day sign Eb and a shell, the latter perhaps retaining its value in the codices of zero or completion, appear in water poured from a jar by Goddess I on Dresden 74. Other glyphs or symbols also occur in water in the Maya and Mexican codices and at Teotihuacán although such associations are very rare. The apparent sign of completion on Dresden 74 is of particular importance here. For it is one of three glyphs which occur repeatedly in the waterlike designs in Classic Maya art. The other two, yax (green) and kan (yellow), sometimes appear side by side or in conjunction with the completion sign. The day signs Ahau and Akbal may occur once or twice, although Eb is unknown. The occurrences of specific glyphs are given in table 5.

Examination of the table shows how the glyphs bind the supposed portrayals of water into a more closely knit complex, enhancing the likelihood that a single concept is involved. Completion (zero), yax and possibly Ahau appear in the waterlike streams associated with different examples of the double-headed sky monster. Only completion occurs with the detached heads of the monster. Completion, then, is the glyph that dominates these important representations at Palenque and Piedras Negras, so the two probable occurrences of yax with the sky monster are of considerable importance (Entry 34, fig.

<sup>24</sup> The bird head is linked with the top of the head of a second, anthropomorphized bird. As is so frequently the case when the sky monster is involved, the head at the observer's left is the "front" one, treated virtually without human features, while the rear head, at the observer's right, is given strongly human attributes. Another Maya pattern in regard to the double-headed monster is followed inasmuch as the anthropomorphic rear head is placed at a lower level than the less humanized front one (cf. pl. 75, *b*; Maler, 1908, pls. 8, 10, No. 2; Maudslay, 1889-1902, vol. 2, pls. 81, 82).

17, *a*).<sup>25</sup> In the somewhat comparable design from a serpentine mouth at Quirigua, the kan sign occurs as well as completion (Entry 45, fig. 20, *c*). It is kan and yax that appear together repeatedly in streams falling from the hands at Yaxchilan. Kan and the day sign Ahau or Akbal appear in the streams poured from containers at Quirigua. Once again kan is present in the stream that is treated in the specific artistic tradition of water in the Borgian Codex and gushes from the mouth of the bird which substitutes for the front head of the sky monster (Entry 62, pl. 76, *a*).

All this may be viewed in a slightly different way. Completion (zero) dominates the portrayals in the west, at Palenque and Piedras Negras, although at the Usumacinta site of Yaxchilan kan and yax may occur exclusively. Kan takes over as one moves farther to the east (Quirigua and, if this is the place of manufacture, the vessel reported from Quintana Roo). It would be interesting to know if a larger sample would substantiate this geographic patterning. As will be seen shortly, there are reasons for believing that at Palenque kan as well as yax shared the aquatic associations with completion. Yax may also have an aquatic association at Tikal. The most that seems to be indicated is a regional favoring of one glyph over another with, so far as can be determined at present, any one of these three symbols being a potential substitute for the others.

#### PROBABILITY B: PARAPHERNALIA AND SECONDARY ASSOCIATIONS

Certain representations that give some evidence of relationship with the Maya motifs discussed heretofore are, nonetheless, somewhat less convincing as water. Some of them could symbolize water without actually portraying it. Others are so highly stylized as to suggest that their function was almost solely a decorative one. Whatever conceptual ideas lay behind the latter group seem to have been largely repressed. True, conventionalization might also have taken place if the object in question represents some type of ritual paraphernalia. In many of these highly stylized examples, however, there is no reason to assume that the object is intended as paraphernalia laden with symbolic meaning, rather than a decoration which, perhaps through convergence, reflects only palely artistic and conceptual attributes of water. This is not to deny that some of the designs discussed previously may actually depict paraphernalia, too; but if this is the case, the artists were careful to show the waterlike aspects

<sup>25</sup> Maudslay's restoration of the two diagonal parallel lines, not visible in the photograph of the Palenque sky monster, is presumably safe (cf. Maudslay, 1889-1902, vol. 4, pls. 42, 43). At least one of the diagonal lines characteristic of yax appears clearly in the stream from the mouth of a dragon at Piedras Negras (Stela 11, Entry 41); Spinden's drawing, which is reproduced here without change, treats the glyph as doubtful, however. (Cf. fig. 17, *d*, and Maler, 1901, pl. 20, No. 1.) Entry 41 is of particular interest because it indicates a specific association of completion and yax.

of the ceremonial objects, and the aquatic symbolism was consequently more pronounced.

Possible examples of ceremonial or decorative objects which retain something in the way of aquatic symbolism relate to detached Long-nosed God or sky-monster heads. Such an object appears on Stela D, Copán (Entry 26, fig. 19, *g*). It is by now a familiar one, a Long-nosed God head without a lower jaw appearing at the top and the remainder of the object below the god's mouth, resembling water from the jaws of the Dresden 74 monster. Held casually in the arm of a figure of the Long-nosed God, however, it clearly appears to be a stafflike object. The representation is reminiscent of the Tlalocs on Borgian 27, 28, and Seldon 9, inasmuch as a deity that is often considered to be the rain god (Appendix A) holds an effigy head, representing himself, from which water seems to descend (cf. pl. 73, *b*).

Elsewhere at Copán (Stela H, Entry 27, fig. 19, *i*), the Maize God is shown holding a stafflike object, at the top of which the head of the Long-nosed God appears. Some connection with Entry 26 seems obvious. If the staff symbolizes water, the conventionalized plant growing from the head of the god could mean that the idea of balanced water and vegetation is intended. Somewhat similar staffs appear at Yaxchilan, although the designs from the region of the mouth, here forming handles, are so rudimentary that it seems hardly conceivable that they could symbolize water (Maudslay, 1889-1902, vol. 2, pls. 81, 82). The Yaxchilan headdress is distinctive and reappears on staffs showing a Long-nosed God head at Palenque (Entry 37, fig. 19, *e*). On each of the Palenque staffs, a short narrow design that is reminiscent of probable streams of water depicted at the site passes from the mouth of the Long-nosed God. The head is inverted, and this suggests a connection with the rear head of the sky monster. However, it also means that the waterlike designs pass upward from the mouth in a most unrealistic fashion. This would seem to indicate that the concept of falling water was not the uppermost factor involved in the artist's choice of subject matter.

It will be recalled that waterlike designs characteristically descend from the sky monster's inverted rear head, as well as falling from the mouth of its front head (Entries 34, 35, 40, 41, figs. 17, *a'*, *b'*, *d'*, 18, *b*). Such designs are virtually identical in appearance and are often marked with the same glyphs. It is accordingly of special interest when a single representation shows flamboyant designs falling from the mouth of the Long-nosed God while corresponding designs rise from its head. In such cases the attributes of the front and rear heads seem to have been combined in a composite entity. This is not to say, however, that the design rising from the head is necessarily water. Closely corresponding representations of this type occur at Quirigua (Entry 46g, h, fig. 23, *g*) and Jonuta (Entry 32). Lightly incised

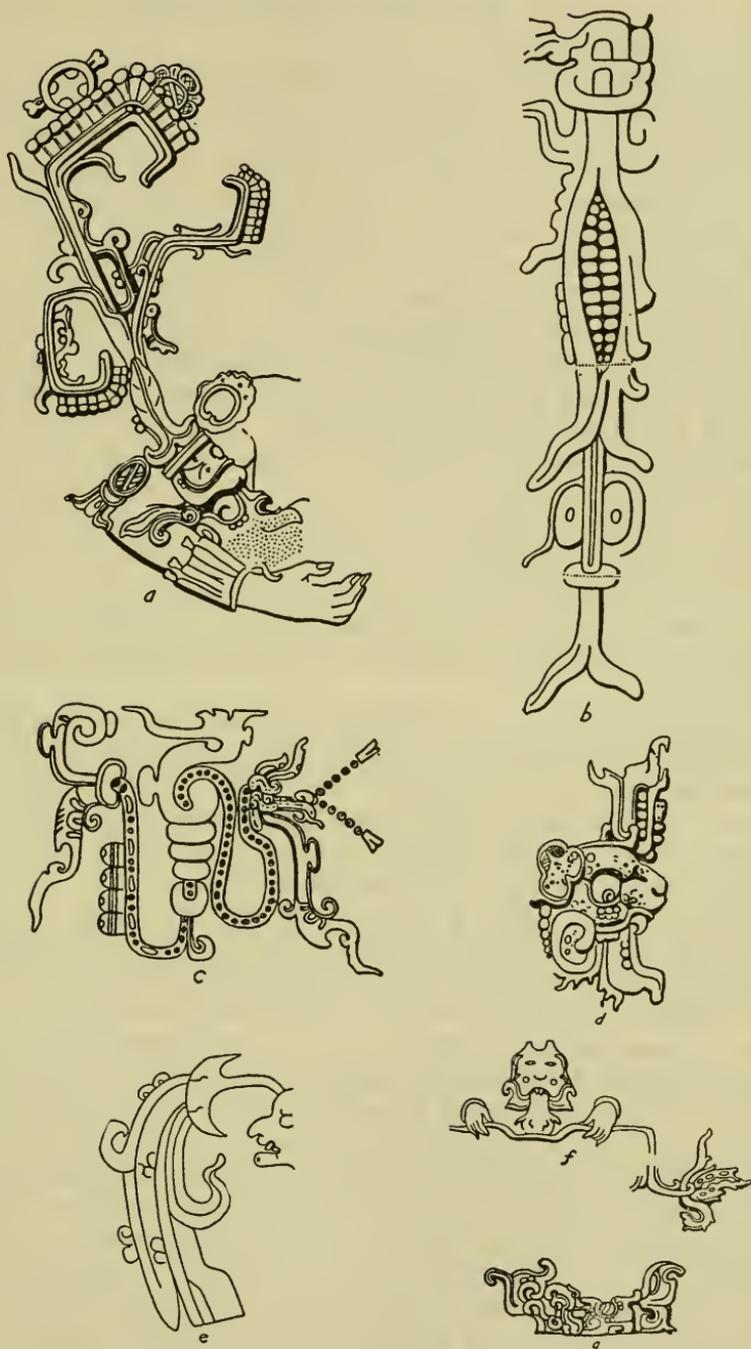


FIGURE 23.—*a*, Palenque, House D. *b*, Palenque, Temple of the Sun (Entry 36). *c*, Nexapa (Entry 63). *d*, Tikal, Temple IV (Entry 48). *e*, Chama (Entry 59). *f*, Quirigua, Zoomorph P (Entry 46a). *g*, Quirigua, Zoomorph P (Entry 46g).

glyphs are present in the waterlike designs issuing from both the head and mouth at Jonuta.

A flamboyant treatment of the serpent's tail is frequent in Maya art, and perhaps it is the better part of valor to recognize the fact and let it go at that. But inverted heads of the Long-nosed God occur rather often at the end of serpent tails, surely as manifestations of the sky monster's rear head. In such cases, elaborate scrolls are often shown passing down from them (Maudslay, 1889-1902, vol. 1, pl. 23; Spinden, 1913, fig. 81; Maler, 1908, pls. 8, 10, No. 2, 13, No. 1). The analogy to Entries 34, 40, 41 (figs. 17*a'*, *b'*, *d'*) is clear-cut. When, therefore, the same scroll appears directly at the end of a snake's tail, without the intervening grotesque head, the conceptual linkage presumably remains close with the classic sky monster as depicted at Palenque and Piedras Negras. Entry 63 (fig. 23, *c*), a ceramic design in Mayoid style from Salvador, displays such a treatment of the serpent's tail. The lower arm of the scroll attached to the tail is strikingly similar to the design that tumbles down from the serpent's mouth. Elements that correspond in outline to the completion (zero) glyph occur in both these representations, at tail and mouth, connecting them with one another and, perhaps, to the more surely identified streams of water in which the completion sign so frequently appears.

Waterlike designs appear beneath the upper jaws of two serpent heads painted on a vessel from Yalloch (Entry 66, fig. 20, *e*). Pseudoglyphs may occur in the designs. The representations would seem, however, to depict some form of pendant object rather than actual streams of water, for the objects are clearly fastened to the jaws of the serpents and feathers to the base of the objects.

Narrow designs, differing widely from the appearance of falling water, pass from the hands of human figures on Mayoid vessels from Salvador (Entry 56) and the Ulua Valley (Entry 65, fig. 19, *d*). The Ulua design assumes the form of a highly conventionalized serpent head. A pseudoglyph is attached to it. Both designs are of considerable interest because, like a number of probable streams of water at Teotihuacán, they branch outward from the hand, a scroll rising into the air while a vertical stream descends to the earth (cf. fig. 14, *b*). A further comparison with Teotihuacán, and with such Mexican codex portrayals as that on Borgian 72, is presented in Entry 65 by the occurrence of an eye in the supposed stream of falling water. (Cf. Von Winning, 1947 a, p. 334, and footnote 14, above.) Positionally, the hand in Entry 65 compares rather closely with hands elsewhere in Maya art from which better identified streams of water descend (pl. 76, *b*, *c*; fig. 18, *a*, *b*; cf. additional hands in fig. 19).

Several representations which fail to show anything that could be

interpreted as streams of water have glyphs attached to the mouth or directly beneath it. This association could be significant in view of the frequent emergence from the mouth of waterlike designs in which glyphs appear. This is particularly true in those instances where other portions of the representation have features that are commonly found with water. A design from Pier c of House D in the Palace, Palenque, is suggestive in this respect (fig. 23, *a*). Taking the form of a highly conventionalized serpent head, what must be vegetation of some sort grows from the detached rear head of the sky monster (cf. Entry 55, pl. 75, *b*). Placed against the serpent's upper jaw are the signs for kan and completion (zero). They may be shown as emerging from the serpent's mouth and therefore be comparable to the yax and completion signs that descend in different streams of water gushing from the front head of the sky monster (Entries 34, 41, fig. 17, *a*, *d*). The further interchangeability of completion, kan, and yax may be indicated by the fact that the representation shown in figure 23, *a*, is enclosed by a border of completion symbols, while a border of yax signs on the adjacent Pier d and kan symbols on Pier e take the place of the zeros (Appendix A; Thompson, 1950, pp. 276-277). Elsewhere, pseudoglyphs appear in connection with the upper jaw of a modified serpent head (Spinden, 1913, fig. 34, *d*). On Lintel 3 of Temple IV, Tikal—the source of Entry 49 and therefore possibly depicting water from the mouth of a Long-nosed God—an owl appears above the body of a double-headed serpentine monster (Maudslay, 1889-1902, vol. 3, pl. 78). The "moan" or "serpent" bird occurs frequently in this position, so its association with the double-headed monster is known to be an intimate one. A yax sign appears at the beak of the bird, suggesting as in figure 23, *a*, that water is symbolized as emerging from the mouth. The occurrence at Teotihuacán (Entry 2) of probable water symbols at the mouths of mythical beings seems to indicate a comparable form of symbolism.

Other symbolism, wherein water is not actually depicted but one of its associations is implied, may take place on the elaborate loin-cloth aprons shown so frequently in Classic Maya sculpture. Serpent heads are shown in profile, their noses turning outward as frets (Proskouriakoff, 1950, p. 70, figs. 24-26). It will be recalled that a serpent head is depicted at the bottom of the breechcloth on Stela 1, Izapa (Entry 16, pl. 75, *a*) and that its presence was tentatively suggested to symbolize the descent of water between the legs. It should be unnecessary to caution against drawing definite conclusions on such shaky data; obviously, one cannot assume aquatic symbolism every time a snake is encountered in Mesoamerican art. On the other hand, the treatment of the back of the black god's breechcloth as a stream

of falling water on Dresden 74 (pl. 72) should not be dismissed too lightly. The apron of the figure on Stela 6, Copán (Entry 28) is of particular interest for its possible aquatic symbolism. A design somewhat resembling Von Winning's treble scroll motif at Teotihuacán occurs toward the top of the apron, while another design, generally similar to the Teotihuacán trilobal drop element, hangs pendent from its base. It will be recalled that simple drops are frequently attached to the treble scroll at Teotihuacán, offering a close analogy to the placement of the trilobal element at Copán (Neys and Von Winning, 1946, fig. 1; Von Winning, 1947 a, fig. 3). However, the trilobal element also has analogies to Proskouriakoff's "leaf-and-fringe" motif (Proskouriakoff, 1950, fig. 13, *a-s*). Tending to support the identifications of water symbols on Stela 6 is a horizontal row of hooklike elements, closer to the lower end of the apron. It may not be too far-fetched to see a reflection of the descent of water upon surface water. The supposed symbolism is strikingly Mexican in the use of its motifs. This may not be too surprising inasmuch as Stela 6 is dominated by Tlaloc heads, replete with the trapezoidal year symbol. Motifs similar to both the trilobal element and treble scroll of Teotihuacán decorate still other loincloth aprons on Classic Maya stelae, at Piedras Negras, Cancuen, and Naranjo (Proskouriakoff, 1950, figs. 13, *p, q, s*, 26, *i, k, m*). Particularly in the trilobal design at Piedras Negras, resemblances occur with a probable water symbol on Monument 9, San Lorenzo (Stirling, 1954, pl. 18) as well as at Teotihuacán. In addition to the three main "drops" at Piedras Negras, two vestigial droplets may be shown about to descend (cf. the five drops, two short, at San Lorenzo, and the treatment of one of the projections assumed by the stream in figure 20, *c*, Quirigua). Inasmuch as the motifs depart somewhat from the Mexican examples, particularly in the leaflike treatment of the trilobal element, they may not warrant this extended discussion. If their identity were established, however, they would constitute a connection of considerable historical significance,<sup>25a</sup> let alone the support that they would give to the supposed symbolism of the descent of water between the legs.

PROBABILITY B: FANG, TONGUE, OR WATER (?)

A more stereotyped motif, with correspondences both to the supposed portrayals of water and to Maya conventionalizations of fangs or serpent teeth, is shown from time to time descending from the upper jaw of various grotesque heads. The argument as to its closest artistic affiliations need not be pursued at the moment, two observa-

<sup>25a</sup> The distribution of the trilobal drop element in Mesoamerica need not concern us here, although its presence on Teotihuacanoid pottery at Kaminaljuyú does bring the indisputable portrayal of the motif close to the Maya area (Kidder, Jennings, and Shook, 1946, fig. 205, *c*, p. 221).

tions being sufficient. Teeth, fangs, and tongue have an even more apparent association with the mouth than have streams of falling water. The design in question does not occur in known portrayals of water.

However, the beings with which the design sometimes appears are known to produce water from their mouths. On Madrid 30b water is shown falling from the mouth of an animal identified as a jaguar by Tozzer and Allen (1910, p. 356). In Entry 48 (fig. 23, *d*), from a Tikal lintel, an unmistakable jaguar head, lacking the lower jaw, is shown with the design in question descending from its mouth. Entry 64, from Uaxactun, compares closely. Elsewhere heads, which may possibly be those of jaguars but are lacking spots, decorate feather capes, while designs of allied type pass downward from their mouths (Entries 38, 39, 47).

Gaiters and corresponding ornaments on the forearms are worn by the probable water pourers at Yaxchilan (Entries 50-54, fig. 19, *f*). The ornaments consist of two serpent heads, often in conjunction with Proskouriakoff's leaf-and-fringe motif. The snake heads are united by her twisted band or mat motif, the upper one being inverted (Proskouriakoff, 1950, p. 97). Linked in this way, the heads are analogous to the double-headed monster, although it must be admitted that, inasmuch as the motif is comprised of separate, widely distributed elements, the correspondence may be accidental. The flamboyant motif which may represent teeth, tongue, or water rises from the jaw of the upper, inverted serpent head. The comparison is close with Entry 37 (fig. 19, *e*), which on other lines of evidence has itself been associated with the double-headed monster. Via figure 19, *e*, then, the Yaxchilan ornaments and the distinctive motif from their mouths may be connected with better authenticated water representations such as figure 18, *a, b*. But, as ever, the ascent of water hits a discordant note.

Water has been identified as falling from the mouths of Tlalocs at Teotihuacán (Entries 4, 12, and perhaps 7). The fang-tongue-water (?) motif appears at the jaw of several probable Tlaloc heads in Maya art. A possible variant of the motif in front view occurs with the mouth of a Tlaloc head in a sculpture from the Hieroglyphic Stairway, Copán (Entry 30). Stela 6 at Copán is especially rich in the portrayal of Tlaloc heads, typical profile examples of the motif occurring with two of them (Entry 28). These Tlalocs appear in the jaws of serpent heads at the ends of a Ceremonial Bar, so, indirectly, water may be intended to be shown emerging from the mouths of the double-headed monster. The same set of concepts seems to be expressed on Lintel 25, Yaxchilan (Entry 55, pl. 75, *b*). In this case, the upper Tlaloc head serves as a mask, appearing before the face of

an anthropomorphic figure, holding spear and shield, who emerges from the jaws of a double-headed serpent. The armed figure, in possible connection with water, recalls the Long-nosed God on Stela H, Quirigua (fig. 20, *c*). Another Tlaloc head, with a similar design emerging from its mouth, occurs in the jaws of the smaller rear head. The imbricated or trapezoidal year symbol, so commonly associated with Tlalocs in Mexico, appears to reinforce their conceptual as well as their artistic identity with the Mexican rain god.<sup>26</sup>

Designs which differ from the fang-tongue-water (?) motif nevertheless fit into the same complex. In Entries 49, 24, from Tikal and Bonampak, respectively, a Long-nosed God and figures with jaguar paws emerge from the serpentine mouths of the double-headed monster, while designs somewhat reminiscent of the motif in question descend from the gods' upper jaws (cf. Entries 28, 55). In Temple 26, Copán, hunched-over figures have Tlaloc attributes but the "water" from their mouths is very different artistically (Entry 30, pl. 76, *d, e*). It is featured, in plate 76, *d*, by a divided stream and a detached drop, the latter surely indicative that some sort of liquid is portrayed.<sup>26a</sup> There is some suggestion that these seated figures are wearing masks. A detached and fleshless upper jaw, with goggle eye and prominent teeth, is larger but otherwise identical to a corresponding jaw at the neck of the figure (pl. 76, *e*). It is on end, apparently set aside. Perhaps, as on Lintel 25 at Yaxchilan (pl. 75, *b*), the water is to be thought of as emerging from the mouth of the Tlaloc mask rather than from that of the being wearing it. More peripheral to the complex surrounding the fang-tongue-water (?) motif, but connected with it through the emergence of a possible stream of water from the mouth of a jaguar, are the ceramic designs in Entry 60 (fig. 15, *a-c*). The branching of the designs into semi-distinct elements presents analogies to motifs which, with varying degrees of certainty, have been identified as water (pl. 74, *b*, figs. 14, *a*; 17, *d*; 19, *b-d*; 21; 22; 23, *c, g*).

#### ARTISTIC TYPOLOGY AND MISCELLANEA

The case for the identification of water in Classic Maya art has by now been largely presented. The detailed associations which have been traced through a series of interlocking complexes constitute some

<sup>26</sup> García Payón, 1939, pp. 242-244, figs. 1, 2, and Thompson, 1950, p. 145. The year symbol is shown emerging from the mouth of a Tlaloc at Uxmal (Spinden, 1924, fig. 321—an association reminiscent of yax, kan, and completion signs with the upper jaw in Classic Maya art.)

<sup>26a</sup> Toward the base the drop is marked with a wavy horizontal line. In this respect, as in shape, it bears considerable resemblance to examples of the "dripping water" symbol at Teotihuacán (Von Winning 1947 a, fig. 1, *e, g, l, m*). Such factors, plus the large size accorded the representations, make the case for an identification of water very attractive for these Copán sculptures. It is, nevertheless, only fair to note that in size and appearance other sculptures at the site are transitional to water and to normal tongues, speechscrolls, or the fang-tongue-water (?) motif (photographic files, Department of Archaeology, Carnegie Institution of Washington, Nos. 37-13-144, 37-13-217, 37-13-221, 37-13C-3, 39-13B-338, 39-13B-346).

of the most telling evidence. Certain artistic data—the resemblance of individual designs to known portrayals of water—have been examined. It remains only to systematize matters of typology, evaluate the extent to which the designs give the appearance of falling water, and seek distributional trends.

Three primary artistic types have already been given tacit recognition. The categories are based primarily on the over-all shape of the motif, rather than on such elements as interior markings or stylistically governed treatments of the outline. It sometimes is possible to find important correlations with these other features, however. Several representations defy a simple classification but need be of no concern in the present discussion of general tendencies. The types are characterized, respectively, by a modified columnar shape, by division into semi-independent branches, and by a scroll (perhaps indicating a pair of scrolls if seen in front view) flanking the upper portion of a rather narrow element. The third type, referred to previously as the fang-tongue-water (?) motif, tends to be the smallest in size and of most highly standardized appearance. The first and second forms will be known hereafter as the columnar stream and the divided stream, respectively. Important relationships on an artistic level occur among the types.

Prominent features of the columnar stream are unusual length as compared to width and a slightly undulating outline that does not, however, depart markedly from the vertical axis. Apart from a general fluidity of line—a stylistic characteristic of Classic Maya art, especially in certain periods (Proskouriskoff, 1950)—the undulation is obtained primarily by the use of projections and scrolls. Slight changes in the width of the stream also contribute to this effect (fig. 20, *a, c, d*). The projection typically passes downward and the scroll upward, although the generalization as to the former meets numerous exceptions (cf. figs. 18, 20, *c-e*). The projections, which may appear along one or both sides of a stream, require somewhat less space than the scrolls and tend to be repeated more often. Some tendency exists for a scroll to be placed very close to the top of the stream, although quite frequently it occupies a medial or basal position (figs. 18, *a, 20, a-c*). Projections tend to be of standardized size and shape and scrolls to be tightly coiled, but again exceptions are to be found (figs. 18, 20). Considerable variation in detail is present, then, within the columnar stream.

An ideal form of the columnar stream, to which water from the mouth of the sky monster on Dresden 74 would nicely conform except for the absence of scrolls (pl. 72), may be abstracted. Perhaps figure 18, *a*, from the Temple of the Cross at Palenque, can be thought of as most closely corresponding to this central tendency. It is ap-

proached in a fair number of examples (see fig. 16, where, however, the emphasis is on resemblance to Dresden 74 rather than to an idealized type). The main body of the stream passes downward, but a short distance below its source—too far down to be a curling fang from the mouth—a tightly rolled scroll swirls up. The vertical descent resumes but again is modified, this time by the occurrence of projections. At least one projection is present in a medial position, while a balanced pair appear at the base. The projections are especially characteristic. They jut outward and downward, the lower edge of each dipping upward slightly to form a spatulate depression. The latter feature is a stylistic trait that appears in nonwater designs, as well (cf. Proskouriakoff, 1950, pp. 34–35, fig. 12, *z*). Here, however, it is not merely combined with a distinctively shaped protuberance but has a functional relationship to interior markings. Essentially vertical lines or bands which start out at the interior of the design pass outward and downward, at approximately 45-degree angle, bisecting the edge of the stream at the under side of a projection. A truly distinctive configuration results from this combination of elements: the vertical column; modification of its exterior by projections of standardized shape and, relative to the width of the column, size; its interior modification by lines that pass outward to become a part of the projections. (Compare pl. 72; fig. 18, *a-d*. Compare further pl. 76, *b*—carved in the round, shorter, but still remarkably similar—and fig. 14, *c*, the latter from Mexico.)

Another feature of the ideal columnar stream is the presence of numerous interior markings, viz, marginal circles, interior dots, marginal circles in connection with bonelike or shell-like elements, and interior vertical lines (pl. 72; figs. 18, *d*, 20, *c*, 18, *e*, respectively). As all are elements of design with a wide distribution, in other streams as well as nonwater representations, they are not diagnostic of the type. It is of some interest that an additional widely occurring element of abstract design, double outlines at the margin of the representation, is virtually absent. In this a comparison exists with the fang-tongue-water (?) motif but a sharp contrast with the divided stream.

The divided stream conveys an impression of vertical descent primarily through suggestion, for the modification of a columnar outline is very great. The stream may divide into semidistinct entities shortly after it has left its source (fig. 21, *c*) or even before it emerges into view (fig. 22). A tendency is marked for one or two of the branches, that flank a central one, to twist upward in a large protuberance or scroll (figs. 17, *d*, 22, *a*, *b*, 21, *c*). The scrolls are loosely rolled, contrasting with those on the columnar streams in this respect. They break down to the extent of merging into the hook-shaped protuberances. This treatment also occurs on the less typical

of the columnar streams (cf. fig. 20, *b*, *c*). Other protuberances are reduced and fringelike (figs. 21, *a*, *b*, 22, *a*, *b*), differing again from those that characterize the columnar streams. Especially at Quirigua, the divided stream, like its columnar relative, shows a tendency to branch at the base; the resemblance, while generalized, is specific enough to be of interest (cf. figs. 20, *c*, and 22, *b*; 18, *a*, *b* and 22, *a*). Various types of interior marking are repeated, the double outline being much more frequent than on columnar streams (figs. 17, *d*, 21, *c*, 22, *c*) but vertical interior lines less common. Altogether the divided streams display the greater flamboyancy of design run riot. At the same time, in a highly impressionistic yet forceful manner, they suggest the splashing of a liquid on the ground.

The third type, the so-called "fang-tongue-water (?)" motif, reveals suggestive resemblances to the various objects embodied in its name. Viewed in profile it shows a scroll combined with a longish element, and inasmuch as the motif occurs exclusively at the upper jaw of some being, the possibility exists that a curling fang from the corner of the mouth may be shown in connection with a tongue. The sculpture from the stairway proper in Entry 30 shows a seeming variant of the motif in front view. As befits fangs at the corners of the mouth, a scroll flanks the exceptionally elongate vertical element on either side. Resemblances to figure 23, *d*, are especially apparent and lend added weight to this interpretation. On the other hand, series of transitional forms are not known which would connect the vertical element with the typical serpent tongue in Maya art (see Spinden, 1913, fig. 30). Thus, even if the scroll could be shown to depict a fang it is possible that the semidistinct vertical element indicates water. The incisor teeth of the serpent perhaps show the greatest correspondence of any identifiable art form to the motif (fig. 19, *h*). The incisors are usually treated in flamboyant style, a curling element flanking a more vertical one. It is rare for the latter to pass much lower than the scroll, although this occasionally occurs (Maudslay, 1889-1902, vol. 2, pl. 69). Comparative evidence would perhaps more strongly favor the portrayal of a great tooth than of a combined fang and tongue, although the degree of elaboration would have to be much greater. Moreover, the motif characteristically emerges from behind a row of teeth, eliminating this as a possibility unless duplication has occurred.

Resemblances also exist to the more likely portrayals of water, particularly to the columnar stream. It will be recalled that many columnar streams are also featured by much the same combination of a vertical element and flanking scroll near its top (pl. 76, *b*, *c*, *e*; figs. 18, *a*, *c*, 20, *b*, *c*). In such cases, however, the scroll is usually

fuller, just as the vertical element is thicker and longer.<sup>27</sup> Elements of interior marking, projections, and a dividing base are also characteristics which are generally lacking on the fang-tongue-water (?) motif. All in all, the case for an identification as water is not impressive if it is based solely on the appearance of the motif. Moreover—and here the evidence of color may finally be brought to bear—a variant of the motif at Bonampak (Entry 24) is reddish brown, certainly more indicative of the tongue, or perhaps of blood, than of water. It may be significant that the color green, characteristic of rain in the codices, occurs prominently elsewhere in the murals although not in this potential portrayal of water.

The waterlike appearance of the columnar and divided streams is much greater.

(1) A splashing quality is indicated by somewhat varying techniques. The forms achieving this impression are basal projections (on both columnar and divided streams); a basal scroll in connection with a branching horizontal band (figs. 20, *c*, 22, *b*); and, in the case of the divided stream, the upward turn of its many branches.

(2) Occasionally, instead of turning back upon itself or “splashing,” the falling stream will change its course to a horizontal one; very shortly thereafter the stream resumes its descent (figs. 18, *d*, 23, *c*). It is as if the stream fell upon an object, which is in fact clearly illustrated in figure 18, *d*, and then spilled off of it.

(3) The quality of undulation provided by nonbasal scrolls, projections, and changes in widths have already been commented upon in the case of the columnar stream. Differences in specific form characterize these elements as they appear on the columnar and divided streams, but in general they may be said to have a slight occurrence on the latter and hence contribute to their waterlike appearance.<sup>28</sup>

(4) Small, detached elements suggest the occurrence of individual droplets. They are very infrequent (pl. 74, *b*; fig. 18, *e*) but significant as evidence that some type of liquid is portrayed. Plate 76, *d*, is especially convincing. The drop is tearshaped and portions of the stream directly above it pass downward as though they, too, are about to detach themselves. A similar appearance is conveyed in figure 20, *c*, where lengthening drops could be indicated as about to detach themselves from the base of the uppermost projection.

(5) Elements of interior marking suggest the multipartite nature

<sup>27</sup> These comparisons are based upon the size of the motif relative to the head of the creature from which it emerges, not just on the absolute area which is occupied.

<sup>28</sup> It should be pointed out that “changes in width” refers to a specific contraction or expansion of the stream by direct means (figs. 20, *a*, *c*, *d*, 22, *a*), rather than by the use of scrolls, projections, and spatulate depressions. Scrolls and projections are discussed separately; the depression is a stylistic trait of wide occurrence in late Classic art. Nevertheless it, too, contributes to the appearance of an undulating stream (see fig. 21, *c*, for a good example of it, not in connection with the projection).

of a stream of water. As has been granted, the elements are common ones in Maya design and would seem to lack specific connotations of water in most of their occurrences. It is possible that some of these elements originated in portrayals of water and spread to other representations; convergence of a reverse order may have been the case; again, their origin might have been a purely artistic one, without reference to conceptual matters. The point made here is simply that, whatever their origin, they suggest the existence of small particles and of motion within the outline, thereby making a contribution to the waterlike aspects of the design (see "Artistic Approach to the Identifications," p. 292).

Representations of rain and other falling streams in the Dresden Codex prove that certain of the Maya regarded many of the design elements in question as fitting accompaniments to water. These elements are not employed to show rain in the other Maya codices, and as a consequence the Dresden manuscript stands apart from them, insofar as water is concerned, having its stylistic affiliations rather with the Classic art of the monuments.

The Dresden Codex shares the following elements of marking with a body of supposed portrayals of water on the monuments:

(1) Marginal circles.—An essentially vertical row of closely grouped circles or dots appears along the margins of the design (pl. 72; figs. 15, *b*, 17, *c*, *d*, 18, *d*, 19, *a-c*, 21, *c*, 23, *d*, *e*).

(2) Interior dots.—Essentially vertical rows of dots, often smaller than those of No. 1, appear within the design (pl. 72; figs. 15, *a*, *e*, 18, *a*, *c*, 19, *a*, *c*; also 18, *b*, 22, *a*, *c*, 23, *e*).

(3) Interior lines.—Essentially vertical lines or bands appear within the design (pls. 72, 76, *b-e*, *f*; figs. 15, *c*, 18, *b*, *e*, 19, *f*, 22, *b*).

(4) Interior lines—projections.—These lines and their functional relationships with the projection have already been discussed (pl. 72; figs. 17, *a*, 18, *a-c*, *e*; cf. pl. 76, *b*).

(5) Double outlines or marginal bands.—Heavy dark green bands occasionally occur at the margins in the Dresden Codex (pl. 72, streams from the sun and moon). Double outlines are reminiscent in certain representations from the monuments (figs. 15, *a*, *b*, *e*, 17, 20, *c*, *e*, 21, 22, *c*, 23, *c*, *d*, *g*).

Certain additional elements of marking occur in a body of supposed portrayals of water on the monuments but not in any of the codices including the Dresden:

(6) Marginal circles—bone.—Marginal circles, usually two in number, appear above a bonelike (Spinden, 1913, fig. 115) or shell-like (pl. 75, *b*, headdress) element (pl. 76, *b*; figs. 17, *b*, *d*, 18, *a-d*, 20, *c-e*, 21, *c*).

(7) Interior dots—projections.—Number 4, above, is duplicated, except that a row of small circles passes outward to form the lower part of the projection (fig. 18, *d*; cf. fig. 19, *a*, *c*).

(8) Interior line—scroll.—Similarly, an interior line passes outward and downward to form the lower part of the scroll (fig. 18, *a*, *e*; cf. figs. 18, *b*, *c*, 20, *a*, 23, *e*).

Inner lines of a somewhat different sort suggest the sweep of the scroll in most cases where that element occurs.

(9) Crescentoids.—Crescent-shaped elements, possibly originating in shells (Kidder, Jennings, and Shook, 1946, p. 223), appear within the design (pl. 76, *b*; figs. 17, *a*, *c*, 20, *a*, *b*; cf. fig. 20, *e*).

Still another element of marking is of more restricted occurrence, appearing in the Dresden Codex and elsewhere:

(10) Horizontal band or line.—A horizontal band or line cuts across the falling water, in the upper part of the stream (pls. 72 (in the stream poured by Goddess I), 76, *b*, *d*; figs. 15, *e*, 20, *e*). The element is much more characteristic of portrayals of surface water.

The Dresden Codex also shares certain elements of specific form, which have been discussed previously, with many supposed portrayals of water on the monuments. The elements in question are projections (used in connection with interior lines), basal projections, and the spatulate depression. A fourth characteristic feature of "water" on the monuments but lacking in the Dresden is the scroll or its loose, hooklike counterpart. Add to these the generally similar elongate columnar shape as well as specific markings of interior design, and it will be seen that, upon analysis as well as impressionistic observation, the stream from the jaws of the sky monster on Dresden 74 has close and insistent correspondences with many of the proposed portrayals of water (fig. 16). Certain resemblances to the more usual portrayal of rain in the Maya codices also exist. Again they are with the Dresden Codex in figures 15, *e*, 23, *e*, both incised on pottery from Chama. In the painted ceramic design in plate 76, *a*, from Quintana Roo, the resemblances are somewhat more generalized in nature.

Outside the Maya area, too, known or well-established portrayals of water have important correspondences with motifs in Classic Maya art. Most have been cited in support of the identification of water given specific Maya designs, but they merit summary. The Aztec sculpture in plate 74, *b*, and Laud 1 (fig. 14, *a*) resemble the Mayan divided stream, while Laud 1 also displays a double outline. Certain Teotihuacán designs, which branch into sharply rising and falling elements, resemble figs. 15, *b*, 19, *d*, from the Maya area. Teotihuacán water, with its occasional floral fringes, shares with the Borgian Codex (pl. 73, *b*) a highly specific resemblance to the stream in plate 76, *a* (Entry 62). Nuttall 19 (fig. 14, *c*) has projections of a characteristically Mayan form; the stream is also segmented in a way reminiscent of figure 20, *e*, although this treatment is highly atypical in both areas. Turning to some of the less positively identified designs in Mexican art, possible streams of water at Tres Zapotes suggest the marginal circle (pl. 74, *c*) while the marginal band, or double outline, and basal scrolls on probable water at Izapa (pl. 75, *a*) indicate the possibility of close Maya affiliations.

Within the streams shown in Classic Maya art, the major artistic divisions exist along typological lines. The classification accorded individual streams is indicated in table 4. Palenque, Yaxchilan, Copán and Quirigua are the centers where the columnar streams occur prominently. It is of no little interest that these almost fully comprise the sites where Classic sculpture attained its greatest developments. One can only speculate if the correlation is an accidental one. The divided stream also appears at Quirigua, where it dominates Zoomorph P, while at Copán the fang-tongue-water (?) motif appears frequently with Tlalocs. At Yaxchilan the same motif occurs often but in a minor position, as an ornamental object of attire, and the divided stream is also present. Palenque is the only major site where the columnar stream exists in monumental art without strong competition from one or more of the other types. Of these four sites, Quirigua seems to display the least similarity to streams of water on Dresden 74 and Palenque or Yaxchilan, perhaps, the most. Stated on a regional basis the comparison is more clear-cut; the Usumacinta sites show greater similarities to Dresden 74 than do those in the Motagua basin, while comparable material is unknown from the Peten. Several representations showing similarity to rain in the Dresden Codex appear on pottery from Chama. Both divided streams and the fang-tongue-water (?) motif occur at Piedras Negras, while Tikal, Uaxactun and Bonampak show the fang-tongue-water (?) motif or variants of it.

Uncertainties of dating at Palenque and to a lesser degree Yaxchilan obscure the chronological picture, for these two sites yield a number of important representations. Moreover, the possible portrayals of water in Classic Maya art are so limited in number as to provide no firm basis for statistical treatment.<sup>29</sup> If the extant codices give any clue to the earlier situation, it appears that representations of water were largely confined to perishable materials during Classic times. When in addition to all this it is remembered that the number of stelae from the early Classic period is small (Proskouriakoff, 1950, fig. 3, *a*), little in the way of chronological developments can be even postulated.

The one striking fact that would seem to emerge from the tabulated data is the great priority of the fang-tongue-water (?) motif. Occurring in only slightly variant form in 9.2.0.0.0 (Entry 47, Stela 9, Tikal), it comes in perhaps as much as ten or more katuns before the possibly simultaneous appearance of the divided and columnar streams. This generalization is based on a single occurrence and so

<sup>29</sup> It is possible that a number of additional representations having as good a chance of being water as those of probability B can be isolated. No claim can be made to anything approaching completeness when the factors are so complex and difficult to evaluate. But unless standards are considerably relaxed, it is safe to predict that the sample will remain meager and unsatisfactory for statistical purposes.

may mean little. However, the presence of the motif at Copán and Piedras Negras in katuns 12 to 14, when the number of monuments and hence of sculptured motifs was beginning to proliferate, gives the impression that the motif was already well established. This would not appear to be true of the columnar stream, unless its occurrences at Palenque are comparable in age. Moreover, if the latter motif was limited at that time to Palenque, as the extant data would suggest, the restricted distribution of the type could indicate a recent origin for it. The few stray occurrences of the divided stream in comparable times seem to center at Piedras Negras and Yaxchilan, with a slightly later shift to the southeast and a subsequent popularity on Zoomorph P, at Quirigua. Comparable designs on polychrome ceramics in Mayoid style are likewise from the southeast—the Ulua Valley and Salvador. One hesitates to make reconstructions from such limited data, however.

#### WATER AND THE WATER LILY

Properly speaking, water is surely to be paired with varied types of vegetation in Mesoamerican art, not just with the water lily. This is recognized in the name given one of the configurations, "Balanced water and vegetation." Past research on the water lily in Maya art by the writer (Rands, 1953) has somewhat limited and directed the nature of the following observations, however. As was noted above (p. 272), an evaluation of the theory that the water-lily motif is of trans-Pacific origin must take into consideration the associations held by water, because the objects with which the water lily is depicted are virtually the same. The anatomical associations recognized for the water lily in Maya art are mouth, nose, eyes, neck, head or forehead, and hands. These are duplicated by well-established streams of water in the case of the mouth, eyes, and hands, while waterlike designs descend from the head. It seems that certain additional anatomical associations may also be held in common, while some of the supernatural beings that serve as the source of the plant or water are the same. Death symbols occur both with water and the water lily.

Designs falling from the inverted rear head of the sky monster, as well as from its detached rear head, are sometimes quite waterlike in appearance (figs. 17, *a'*, *b'*, *d'*, 18, *b*). This is particularly true of figure 18, *b*, from the Temple of the Cross at Palenque, which is nicely balanced with a detached but upright "front" head of the monster, from the mouth of which water is apparently depicted as falling (fig. 18, *a*). The same balancing of "front" and "rear" heads of the monster occurs in the Temple of the Sun, Palenque (Entry 36; figs. 18, *c*, 23, *b*). Yet the difference is notable. In the sculptures

from the Sun, "water" from the mouth of the front head is shown in the tradition of Dresden 74, while the designs passing down from the two inverted rear heads are only vaguely comparable. Instead, the latter designs are treated so as to suggest vegetation; pods of seeds, or maize ears, seem surely to be shown. As one turns to still other sculptures at the site, the rear head of the monster is found in upright position and the plantlike designs—the celebrated "crosses" or "trees" of Palenque—grow upward from the head (Maudslay, 1889-1902, vol. 4, pls. 76, 81). The plants are highly conventionalized, especially in the Temple of the Cross, but their vegetal nature is clear enough to constitute a telling precedent for the growth of plant life from the rear head of the monster. Together with the evidence from the Temple of the Sun, this suggests that the pendent designs below all the inverted rear heads of the monster should be vegetation rather than water.

Working from the known or readily identifiable to the unknown, then, it has been possible to build up two cases, each of which is logically self-consistent but in opposition to the other. In a situation of this sort it seems fruitless to speculate about which explanation is "right" and which "wrong," although there do appear to be good reasons for believing that the growth of vegetation was the more widespread and hence presumably older and more fundamental of the associations. Perhaps it was especially at Palenque and Piedras Negras, or in this general area,<sup>30</sup> that the priest-artists played with the motif of vegetation from the rear head so as eventually to transform it, by a sort of convergence, into an artistic and perhaps conceptual counterpart of the water emerging from the jaws of the sky monster's front head. In figure 18, *b*, there seems every bit as much reason to regard the design as water as to designate it vegetation, and vice versa. The case for either identification is a strong one. Under these circumstances it seems better to recognize the situation for what it is, and see powerful forces of convergence at work, than to shut one's eyes, throw up one's hands, and say that because of the contradictions it is impossible to tell and that the design therefore probably lacks conceptual connotations of any sort.

Additional data tend to associate the rear head of the sky monster still more closely with vegetation. Representations of the maize

---

<sup>30</sup> Cf. the waterlike treatment accorded another design that descends from a head (fig. 23, *e*, Chama). It does not actually contact the head but passes from an object attached to it (cf. the composite headdress, with water included in it, on Fejervary-Mayer 33). Compare Entries 32, 46g, h (fig. 23, *g*), from Jonuta and Quirigua, which show "water" emerging from the mouth of the Long-nosed God and a similar design passing from its head.

Untabulated, other designs occur which show partial similarities to the above-mentioned representations from Jonuta and Quirigua. The balancing of water and vegetation is not clear on Stela A, Quirigua (Maudslay, 1889-1902, vol. 2, pls. 4, 8). But in Toltec period art at Chichén Itzá a similar scrolled, "waterlike" element passes beneath the mouth or neck of a long-nosed head, while the balancing element, rising from the head, clearly incorporates vegetation (Maudslay, 1889-1902, vol. 3, pl. 46, A-7). It is, presumably, the water-lily flower and rhizome (Rands, 1953, pp. 107-108).

plant are commonly depicted as growing from the head of the Maize God, while with equal certainty water lilies emerge from the heads of other beings. Some of the latter creatures are, in fact, closely connected with the rear head of the sky monster (Rands, 1953, p. 104). Moreover, Proskouriakoff's "leaf-and-fringe" motif, regarded by the present writer as one of the less surely identified forms of the water lily, is known to occur in the headdress of the monster's rear head and with possible variants of this head (figs. 17, *a'*, 19, *f*; Proskouriakoff, 1950, p. 97, figs. 13, *a-o*, 35, *b'-d'*; Rands, 1953, p. 110).

It is conceivable that the Chama vessels show special kinds of balanced water and vegetation. Just possibly, the streams in Entry 59 issue from flowers whose stems are tied to the heads of the snail-shell deity, N (fig. 23, *e*; lines suggesting petals appear somewhat more convincingly in the corresponding design (Dieseldorff, 1926-33, vol. 1, fig. 71)). If so, the subject matter of the ubiquitous Teotihuacán motif of water dripping from flowers is duplicated. The snail-shell deity recurs in Entry 58, his shell apparently being worked into a water container (fig. 15, *e*). The mollusk shell worn by a closely corresponding figure (Dieseldorff, 1926-33, vol. 1, fig. 239) holds no water. Significantly, however, the shell serves as a probable water-lily rhizome, being attached to a flower (the Over-all water-lily type IIe of Rands (1953); see footnote 30 for additional examples of the way in which this form of the water-lily motif has close associations with falling water).

One of the more prominent associations accorded the water lily is with the head of a jaguar (more specifically, perhaps, at the back part of the head, or even around the ears or neck). This is shown in figure 23, *d* (Entry 48); a similar flower grows above the head of a second jaguar carved on the same lintel. The fang-tongue-water (?) motif appears below the upper jaw of the first jaguar. If water is shown, it is nicely balanced by the floral vegetation. The combined portrayal—flower growing at the head and the fang-tongue-water (?) motif or a variant of it at the mouth—occurs elsewhere with jaguars or with rodentlike animals (Entries 38, 44, 47, 64).

Not only is water known to emerge from the mouths of various creatures but so is the water lily. In Maya art the water-lily stem typically surges outward from the corners of the mouth. The scrolls at the sides of the fang-tongue-water (?) motif have a similar treatment, and if they actually form part of a stream of water it follows that they share with the water lily this precise portion of the mouth as the place from which they emerge. This is also true, of course, of the common curled fang in Maya art. Convergence may again be involved. Water seems to emerge from the mouths of Tlalocs in the murals of Tepantitla at Teotihuacán (Entry 4). In repeated de-

signs in the same murals, a leaf-and-bud motif, which may well represent a water lily, emerges from the mouths of other Tlaloc heads. Stela 6, Copán, suggests a striking correspondence (Entry 28). The fang-tongue-water (?) motif appears at the mouth of two Tlaloc heads, while designs which apparently represent leaf or floral forms occur beneath the upper jaw of three additional Tlalocs.

The hand is shown as a source, or temporary source, of the water. In the case of the water lily, the hand is more apt to be shown holding on to the plant. The correspondence, then, is not a complete one, but it is close enough to warrant attention. Figure 23, *f*, shows the passage of the water lily stem through the hands in characteristic fashion. An object which may well be water tumbles down upon the stem from the mouth of the figure who is holding the plant, and if water is actually shown, its association with the water lily is here made very explicit.

While occasionally portrayed as probable symbols of rainfall in Mesoamerica, tears have not been recognized in Maya sculpture. Infrequently but with considerable elaboration, water-lily stalks are shown passing from the eye in Maya art.

Perhaps a definite association of the water lily with the region between the legs cannot be maintained, but certain data point in that direction. A fairly realistic flower and stalk serve as the lower portion of a breechclout on a vessel from Yalloch. Paraphernalia symbolizing the descent of water from serpent mouths seem to be shown on the same vessel (Entry 66, fig. 20, *e*). If this association were an isolated case for water-lily-like flowers it could easily be passed off, but a common motif in Classic Maya sculpture provides a comparison of possible significance. It is the leaf-and-fringe motif in its occurrences at the base of the loincloth apron (Proskouriakoff, 1950, p. 70, figs. 24, *i, q, r, t, w*, 25, *a, f, g*, 26, *o*). The criticisms to be leveled against this argument are clearly on the order of those which have been indicated in connection with the suggestion that the serpent-frets on the aprons of the Classic Maya indicate aquatic symbolism. Possibly the "trilobal drop" element decorating the aprons on certain Classic Maya stelae, with its resemblances both to the symbol which Von Winning has given that name at Teotihuacán and to the Maya leaf-and-fringe motif, is another example of convergence which has taken place in the treatment of water and the water lily.

### CONCLUSIONS

Working where possible from the known to the unknown, the writer has traced a series of interlocking complexes that relates to falling water in the religious art of Mesoamerica. The specific arguments

that water is actually portrayed need not be repeated here. They have been developed throughout the major part of the paper and are summarized, from the standpoint of methodology, in Appendix B. For many of the identifications, the evidence can perhaps be best appreciated by supplementing reading in the text with the visual presentation in figure 16. In this chart, an attempt is made to show some of the more important interrelationships of an artistic and conceptual sort, which link motifs that are known to be water with those of unknown significance and bind the latter into cohesive, closely knit yet interlocking groups.

It is possible to observe such a phenomenon, apparently, because the aboriginal Mesoamericans held more or less in common a series of concepts relating to the production of rain. The specific delineation of these concepts varied somewhat in time and space. Moreover, it would often seem that within a single cultural setting alternative ways of expressing any one of these concepts was not only possible but even encouraged. As a result of these factors—divergence through time and space, and divergence because of conscious artistic manipulation—a number of modal forms of representation came into existence which may be regarded as virtual synonyms. It is these different manifestations of basic underlying patterns that, because of their high incidence and their synonymous usage, are so frequently found to interconnect.

Imitative magic, or at least the type of analogies on which it is based, seems to have played an important role in Mesoamerican beliefs regarding the production of rain. The pouring and sprinkling of water are shown by documentary and ethnological sources to have this connotation, and this is reflected in the codices as well as in the earlier, less securely identified art forms. As a result, special significance would seem to have accrued to the hand and to water containers. This can certainly be asserted from the standpoint of the present investigation, and it probably also holds true for the way in which these objects were regarded in Mesoamerican thought. Weeping is known through documentary evidence to have been accorded coercive aspects, causing the deities to send rain, presumably in the form of tears (Appendix A). It is not known if urination, spitting or vomiting, or other liquid-excreting activities were held to have coercive magical powers, but it is clear that the rain deities were thought to produce rain in the same or analogous ways. As a result, great significance seems to have been given urination and perhaps other liquid-producing functions. For these and undoubtedly additional reasons, the region between the legs, and the mouth, also received special emphasis.

The evidence of art and ethnological data, as developed in the main body of the paper and Appendix A, suggests certain broad chronolog-

ical changes in the popularity of these associations.<sup>31</sup> In all cases, however, the paucity of the data severely limits the reliability of any conclusions that may be drawn. The highly tentative nature of the following reconstructions must be borne in mind.

Tears are emphasized on an early horizon, pre-Classic in some instances (Entries 20 (?), 23), and their association with rainfall lasts until the present day. Nevertheless, the few scraps of data could suggest that tears as an art motif declined in popularity during the late Classic and post-Classic periods.

The hand is strongly associated with water in early Classic times, at Teotihuacán, and appears on the late Classic Maya stelae with considerable vigor. It is largely absent as a source of water in both the Maya and Mexican codices, however. Ethnological data reveal some importance for this association, but tend rather to emphasize an object held in the hand as a means of sprinkling. There is a temptation to postulate a rather late substitution of an aspergillum-like object for the hand proper, with a consequent lessening of the importance of the latter. Could Entries 35 to 37 and 26 27, 29, from Palenque and Copán (e. g. figs. 18, *a, b*; pl. 76, *b, c*) reflect the beginnings of such a development, the water being shown both as emerging from the hand and from an object, a god's head, above the hand? Unfortunately for this hypothesis, the god's head does not resemble the "aspergillum" or "hyssop" referred to by the Spanish sources, although compare Borgian 27, 28, and Selden 9.

The mouth forms another important association of water in Classic times, particularly if the fang-tongue-water(?) motif of the Maya actually depicts water. If so, streams from the mouth would occur in the early Classic both in the Maya area (Tikal) and at Teotihuacán. The real elaboration of the motif appears, however, to have taken place in the late Classic, among the Maya. Water is also depicted gushing from the mouth with some frequency in the codices, particularly those from the Maya area, and this would seem to indicate the association was a vigorous one shortly before the Conquest. Then comes an abrupt absence of additional data, hardly more than the suggestion that water might be connected with the mouth. The contrast is sharp and puzzling.

The pouring of water from a pottery vessel or similar container is known from the late Classic but seems to gain in popularity as one moves into protohistoric and post-Conquest times. Today, on an ethnological level, it is by all odds the most virile of the water associ-

<sup>31</sup> See table 6 for recorded presences or absences of a trait in the Maya and Mexican codices and documentary sources, at Teotihuacán, and on the Maya and non-Maya monuments and ceramics. These data have summary value along both distributional and chronological lines, although they do not reflect the intensity of a trait's occurrence.

ations in Mesoamerica. It stood in the same rank, but perhaps not as pronouncedly so, during the period from which the codices date. Although strong in Mexico, the main locus of the concept seems to have been in the Maya area. This may be reflected by modern folklore, which among the Maya is consistent in connecting water per se with the container, while the Zapotec and other Mexicans see clouds, hail, or wind as emerging from the vessels, which also serve as the storage place for various types of vegetation. (Perhaps this difference may also relate to the greater Mexican tendency to depict foreign objects falling in streams of water, which are often poured from containers.)

The descent of water from between the legs may not appear until the period of the codices. It is more common in the Maya than the Mexican codices. The *bul-eb* bug and other data connect urination with rainfall or mist among the late Yucatecan Mayas. It is possible, however, that the association is also present in Classic Maya times, although if this is the case it appeared only in symbolic form, almost prudishly, at least on the stelae.

Representations of the other physiological associations, water from the breast and the body, are known only in comparatively late times. Really concrete evidence of them in the post-Conquest period appears to be lacking, notwithstanding certain suggestive data.

An association of a different sort derives from the occurrence of glyphs in falling streams of water. The appearance of symbols with supposedly aquatic value in streams at Teotihuacán is analogous and constitutes the earliest record of the trait. It comes in strongly during the late Classic, among the Maya. Their art repeatedly shows the signs for yax (green) kan (yellow), and zero or completion placed in the falling streams. These signs also occur as affixes in connection with waterlike designs in certain glyphs. Completion may also be present in water in the Maya codices. The existence of the day sign Eb in a stream is unquestioned (Dresden 74), where it constitutes a highly suggestive linkage with the *bul-eb* bug, urination, mist, and perhaps the pouring of water from a jug. During late times in Mexico, the appearance of a rubber-ball sign in falling water and references to green and yellow water provide interesting comparisons with the Maya developments. (See Appendix A.)

It may be permissible to regard the objects sometimes shown falling in streams of water as a variation on the glyph in water. The appearance of various objects such as shells and flowers in water at Teotihuacán establishes the occurrence of this trait in the early Classic period. Late Classic representations from the Maya area occasionally show a god, armed with spear and shield, in the water or closely associated with it. This seems a far cry from the Teo-

tihuacán examples, but in Mexico during the protohistoric period it is a commonplace to find weapons of war associated with water, either as the *atl-tlachinolli* symbol, which sometimes passes, speech-scroll-like, from the mouth, or in the more realistic portrayals of falling streams. A connection may, therefore, exist. In the Maya codices, too, objects suggesting death and warfare occur either in falling water or with this intimate association.

Here we have been dealing with the configuration of death, destruction, and misfortune, which seems to have a close relationship with warfare. Other aspects of misfortune also enter the picture, to judge from the data of Appendix A. The failure of the crops, due to malevolent types of precipitation, would appear to be high on the list. The artistic data give little evidence along such lines, however.

Some of the configurations show a tendency toward spatial localization. The descent of water upon surface water is marked in Mexico; rather similar representations occurring from Teotihuacán to Izapa, on the borders of the Maya area. It may be unknown among the Maya proper, however. The descent of water on a human figure is likewise limited to Mexico, if scenes such as baptism and sprinkling are not considered relevant (Madrid 93c, fig. 19, *b*(?)). On the other hand, the double-headed serpentine-saurian sky monster is a specifically Mayan creation, and in pure form its association with water is obviously enough restricted to the Maya area. Nevertheless, snakes with water or water symbols emerging from their jaws do occur as far away as Teotihuacán. The widespread and frequent appearance of the bending-over rainmaker offers a notable contrast to the traits which have just been discussed.

A final trait whose distribution is of considerable interest is the association of Tlaloc with falling water. At Teotihuacán the deity would seem to have dispersed rain from his hands and mouth; at the time of the codices and Spanish contact Tlaloc sprinkled rain from objects held in the hand and, in apparently more characteristic fashion, poured it from vessels. In the Classic Maya period, particularly at the site of Copán, a goggle-eyed Tlaloc head is sometimes depicted. The fang-tongue-water(?) motif occurs frequently at its jaw, suggesting either the emergence of water from the mouth, as had presumably occurred at Teotihuacán, or the elaboration of the tusks so characteristic of the later Tlaloc figures. Whichever answer may come closer to reality, it is of considerable interest that goggle-eyed masks seem to be depicted at Copán with water gushing down from their jaws (pl. 76, *d*, *e*).

The artistic treatments accorded falling water seem to reveal greater regional specialization than is true of the conceptual associations, at least so far as "Mexican" versus "Mayan" spheres are con-

cerned. The Aztec *atl* portrayal was widespread in the Mexican codices on a late horizon and is especially distinctive and standardized. A handful of pictures in the Mexican codices do, nevertheless, show rather close correspondences with Maya delineations of water. Projections on water as it occurs in a single scene in the Nuttall Codex (fig. 14, *c*) recall those on the Classic Maya columnar stream; a portrayal in the Laud Codex (fig. 14, *a*) is strongly reminiscent of the Maya divided stream; streams in the Borgia Codex are edged with presumedly floral elements of the sort that crop up once in a Maya representation (pls. 73, *b*, 76, *a*). Perhaps of any of the codices, the Borgia displays closest resemblances to falling water at Teotihuacán. Certain water symbols characteristic of Teotihuacán may be encountered at Monte Albán and, in somewhat variant forms, as widely as San Lorenzo in the "Olmec" region and possibly even Copán (Von Winning's treble scroll and trilobal drop element). The exceptional nature of these occurrences is to be stressed, however.

Falling water as depicted within the Maya area is subject to great variation. Even in the three extant codices the differences are marked. This is particularly seen in the Dresden, where certain streams more closely resemble representations on the Classic monuments than they do rain as shown in the other codices or, indeed, in other parts of the Dresden itself (cf. pls. 72, 73, *a*; figs. 18, 20). This may have implications as to the date of the codex, or its place of origin or copying. If so, however, they lie beyond the scope of the present study. More pertinent is the realization that, if known portrayals of falling water in the Maya codices can differ so greatly, it may not be surprising to find a substantial range of variation in the modes of representing the same subject in the Classic sculptures. The simultaneous existence of columnar and divided streams does not appear so strange when viewed in this perspective. There would appear even to be room for the fang-tongue-water(?) motif, if it could qualify as water on its own merits.

Insofar as a central tendency or common denominator exists to connect the three Maya artistic types, it is present in the form of the columnar stream. Like the fang-tongue-water(?) motif it often displays a scroll toward the top, flanking a longer, vertical element. It compares with the divided stream in its elements of marking. Nevertheless, the few chronological data suggest a much earlier date for the fang-tongue-water(?) portrayal. In the same way, it may be possible to speak of a central tendency around which the various columnar streams seem to cluster, without necessarily implying the priority of this form. Such an ideal type is best recognized at Palenque. There has been occasion to note that, of the four major sites

in which the columnar stream occurs, it is only at Palenque that it exists without strong competition from one or both of the other types. A somewhat comparable situation exists in regard to the portrayal of the water-lily leaf at Palenque (Rands, 1953). Repeatedly, as one traces particular motifs in Classic Maya art, Palenque stands out as the site where the motif occurs in "purest" form. Does this imply that the art form originated in Palenque and spread from there into areas where alternative forms were already in use? Or does it mean that the priest-artists of Palenque somehow had the ability to abstract the essential characteristics of forms that had a wider distribution and then utilized their creation intensively? The problem has ramified implications, in terms not only of chronology and diffusion but of the sociocultural matrix in which artistic activities were based. Complicating factors are provided by the peripheral geographic position of Palenque and the highly individualistic nature of its stylistic school (Proskouriakoff, 1950, pp. 136-137). Unfortunately, the dating of the site is most uncertain (Proskouriakoff, 1950, pp. 120-121, 149).

The wealth of water associations displayed on Dresden 74 makes it a likely subject of comparison with many other representations. Parallels are numerous on Stela 1, Izapa, a non-Maya monument (pls. 72, 75, *a*). The fact apparently signifies nothing more than that great emphasis was given the treatment of water in the two scenes, the artists dipping independently into the vast storehouse of ideas relating to the production of rain that were widespread throughout Mesoamerica. On the other hand, the resemblances between the water-belching sky monsters of Palenque-Piedras Negras and the Dresden Codex are specific enough to suggest that something else may be involved (pl. 72; fig. 17). Such speculation is reinforced by the close artistic similarities of the falling streams in the Dresden Codex and at Palenque (pl. 72; fig. 18, *a*, *b*). Again, however, one would wish for a better knowledge of sky monsters and falling water as depicted on perishable remains, such as codices, before emphasizing areal relationships.

If the present study were primarily intended to determine time-space relationships, it would be imperative to differentiate the various factors which are responsible for the specific artistic correspondences. Surely, some of these resemblances are due to diffusion on a single time level, others to derivation from earlier culture patterns. Cross-cutting this complex situation is the further probability that in some cases merely the religious concept was taken over, while in other instances the concept was accompanied by a specific art form. Seen in this perspective, historically oriented studies become highly elusive

affairs. The archeologist, accustomed to work in a context of *style*, is at somewhat of a loss when confronted with stylistically dissimilar yet unquestionably related *motifs*.<sup>31a</sup>

A concrete example may have illustrative value. A great variety of postures are assumed by the bending-over rainmakers in Mesoamerica. In folklore or religious speculation, it is highly improbable that the precise posture would be carefully delineated; generalized references would be sufficient.<sup>31b</sup> In religious art, however, it becomes necessary to sharpen the focus, endowing these leaning supernaturals with a specific set of postural attributes.

Working from artistically distinct backgrounds, the sculptors of, say, Zoomorph P at Quirigua and Stela 1, Izapa, portrayed the bending-over water pourers with quite different postures (figs. 21, *a*, *b*, 22; pl. 75, *a*). The stylistic relationship is, for practical purposes, nonexistent. But the priest-artist who depicted God B in the water-pouring act on Madrid 13b closely duplicated the posture of certain water pourers on Zoomorph P. This is to say that the fashion or style of portrayal is virtually identical, insofar as bodily position is concerned. Directly or indirectly, diffusion must have been involved in both the Quirigua-Izapa and Quirigua-Madrid cases. But the type of diffusion differed fundamentally. Such distinctions need to be made in time-space studies of art forms—water or otherwise—that are direct expressions of underlying concepts. Unfortunately, however, the precise techniques for accomplishing this are largely unexplored.

Streams of water and plants, the latter often to be identified as water lilies, display a remarkable tendency to occur in analogous situations. Associations with various parts of the body—mouth, eye, hand, and possibly the top of the head and the region between the legs—are strong in both cases. Many representations of both flowers and streams are in contact with these anatomical parts. In addition, a number of specific representations appear to emphasize this reciprocal relationship of water and vegetation. Striking examples of this seem to occur in the Teotihuacán murals (especially at Tepantitla in connection with Tlaloc mouths); again in connection with Tlaloc mouths on Stela 6, Copán (although this identification is made somewhat suspect by the presence of the fang-tongue-water(?) motif and the fact that the floral forms could be more realistically shown); and on the Piedras Negras-Palenque sky monsters and affiliated forms (where, whether “water” or “vegetation” is primarily

---

<sup>31a</sup> It is true that archeologists are not prone to deal with the esthetic factors and artistic mannerisms that lie at the heart of an art style (cf. Proskouriakoff, 1950, p. 183). But it is equally apparent that most archeologists have shied away from a consideration of motifs removed from their stylistic context.

<sup>31b</sup> True, the precise postures taken by god impersonators in rainmaking ceremonies may have influenced beliefs regarding the postures of the supernatural beings themselves.

intended in connection with the rear head, an ingredient of both must have intentionally entered into the portrayals).

The occurrences of vegetation, especially flowers, with these water-like associations has a bearing on the theory of the Asiatic derivation of the Maya water-lily motif. This has been explicitly recognized in previous sections ("Introduction" and "Water and the Water Lily"). Perhaps the associations held in common by water and flowers grew up simultaneously, or perhaps they passed, through substitution and convergence, from one motif to the other. Nonartistic data should be utilized in an extended examination of the problem. Thus, Thompson (1950, p. 73), pointing out that the Maya term for the water lily, *naab*, also means the palm of the hand, has suggested that the flower's name was derived from the resemblance of a lily pad to the palm of the hand. However this may be, the name probably has some connection, directly or indirectly, with the frequent artistic motifs that show the water lily associated with the hand. Linguistic data should provide additional clues of value in making a detailed investigation of the associations held in common by water and the water lily. Especially in a culture such as the Maya, where double meanings were exploited, the devious route taken by converging art forms should thereby be better understood.

For present purposes, however, the data do not permit speculation as to whether the associations grew up around water, the water lily, or both simultaneously. Accordingly, no denial can be made to a theoretical position which would hold that the water-lily motif was of trans-Pacific derivation and, when transplanted to Mesoamerican soil, influenced the associations accorded falling water. It is of interest, however, that the early Classic murals of Teotihuacán appear to show both floral forms and water emerging from Tlaloc mouths. Whatever the ultimate origins may have been, the water and water-lily complexes were surely exerting profound influences on one another, shaping the many elaborations which took place, during much of the Classic period.

Comparisons with data outside Mesoamerica have still another significance. A glance at the index of Frazer's monumental "Golden Bough" will show that many of the water associations, as recognized herein, reappear in other parts of the world (Frazer, 1935, vol. 12, pp. 427-428, 518). The precise significance of this to the present study is uncertain, and it is unnecessary here to speculate at any length about the relative importance of diffusion, parallelism, or convergence in the historical development of these ideas. The imitative aspects of the various types of rainmaking are pronounced, however; and one could actually regard the world-wide occurrence of comparable beliefs as an indication of the "naturalness" of the association

of containers, hands, and the other objects with water in Mesoamerica. To this extent, it may be legitimate to regard Frazer's material as a corroboration of the identifications made in the present study; at the least, they give it a broader perspective that is of value.

The exact significance of much of the data which have been presented remains unclear; many of the proposed identifications of falling water occupy, at best, a doubtful status. One broad fact seems to have been established, however. Closely connected concepts regarding the production of rain were widely shared in Mesoamerica. The specific forms frequently varied, and they would sometimes combine into highly elaborated complexes that would set off from one another neighboring areas or even sites within the same culture. But the underlying, ever-recurring patterns were remarkably consistent.

#### APPENDIX A

##### NONARTISTIC DATA AND CURRENT RECONSTRUCTIONS

###### DIRECT WATER ASSOCIATIONS: PHYSIOLOGICAL DATA

A case can be made for the reality of a number of the water associations, on the basis of ethnological, documentary, or epigraphic data. It is true that the arguments vary considerably in strength. Nonetheless, as a result, additional support is given to the identifications of streams of falling water, which have been made on artistic grounds.

A passage from Thompson, in regard to the nature of the Maya sky god Itzamna, may, perhaps, be related to several of the direct water associations (Thompson, 1939, pp. 152-154). Following Lizana, Thompson quotes the remark attributed to Itzamat Ul (Kab Ul, Kat Ul): "I am the *itz* (dew or substance) of heaven, I am the *itz* of the clouds." Several alternative or reconstructed forms appearing in Itzamna's names (*itz*, *t'ul*, *kab*) refer, according to Thompson, to "liquids that exude drop by drop." Definitions in the Pío Pérez and Moran dictionaries are cited. *Itz* signifies "milk, tear, sweat, semen, resin, or gum for coagulating from trees, bushes, and some grasses." *Kab*, as well as meaning "hand," signifies "froth, gravy, soup, liquid of anything, milk, juice," and, in compounds, "resin of trees, honey, tears, scorpion's poison, drool from the mouth, and rust." *T'ul* is defined as "water to pour off the garment of a person that has had a wetting," hence, according to Thompson, dripping water.

Thompson further points out that Itzamna, as well as the Chaacs or rain gods, was invoked in a rainmaking ceremony, described by Landa in connection with the mouth Mac (Thompson, 1939, p. 152;

Landa in Tozzer, 1941, pp. 162-164). In this ceremony fires were extinguished with pitchers of water. "They did this," according to Landa, "so as by means of it to obtain a good year of rains for their grains." Thompson goes on to suggest an identification of Itzamna with the sky monster and a connection with water symbols in Maya art. This suggested linkage, while of great importance, need not concern us at the moment. The significant conclusion for the present discussion is that Itzamna was intimately connected with rainfall. According to Thompson, Itzamna's rain was of the scanty, dripping variety which is to be associated with drought and disaster, rather than being a heavy fall<sub>u</sub> of water.

Another hypothesis should be mentioned as a possible alternative to this last interpretation by Thompson, although the two are in no necessary conflict. Could not the dripping or exuding liquids refer directly to the physiological secretions upon which Maya ideas of the production of rain were based, rather than to the character of the rainwater itself? As has been indicated in a preceding section, many of the direct water associations seem to derive, by analogy or sympathetic magic, from fluids actually secreted by living beings. If this argument is followed, the *itz* or *kab* of Itzamna could refer to the drool from his mouth, tears from his eye, milk from her<sup>32</sup> breast, semen from between his legs, or sweat from his body. Itzamna's statement, "I am the *itz* of the clouds," is in keeping with such an interpretation.

Elsewhere, Thompson (1950, p. 282) discusses additional data with possible bearings upon the direct water associations and balanced water and vegetation. The root *ak*, Thompson points out, refers in Yucatec Maya to vegetation turning green and to the idea of humidity. Among the many constructions into which the word enters, *akci* (to pour water), *akzah* (to urinate), and *akyaabil* (the rainy season), as well as possibly the meaning "tongue" for *ak*, may have significance for the present problem. The associations of rainwater with vessels, the region between the legs, and possibly the mouth are suggested. The exact bearing of these terms on the water associations, if any, cannot be determined. Nevertheless, the tendency toward punning and rebus writing that pervades the oral literature and hieroglyphs of the Maya offers support to the belief that some connection may be involved (cf. Roys, 1933; Thompson, 1950, pp. 46-48). The *ak* words may have served as a stimulus to the creation of concepts that would link containers, the region of the genitals, and the mouth with

---

<sup>32</sup> Duality of aspect, including the changing of sex, is one of the outstanding characteristics of the Maya deities (Thompson, 1950, p. 13).

rainfall. Conversely, the Maya may have taken recognition of pre-existing religious concepts by increasing or giving new meanings to the *ak* words.<sup>32a</sup>

#### WATER FROM CONTAINER

Only a few of the direct water associations can properly be said to receive unequivocal support from documentary and ethnological sources. In many cases, a certain amount of reconstruction and interpretation is required by the investigator to connect the data with the association in question. But the existence of a Mesoamerican belief that rain is poured from a container is clear and unmistakable. Thus, of the Aztec rain god, Tlaloc, the *Historia de los Mexicanos por sus Pinturas* states:

Of this god of water it was said that he had his dwelling of four apartments, in the middle of which was a large courtyard, where stood four large earthen pans full of water. In one of these pans the water was excellent, and from it the rain fell which nourished all manner of corn and seeds and grain, and which ripened things in good season; from the second rained bad water from which fell cobwebs on the crops, and blight and mildew ensued; from another fell ice and sleet; when from the fourth rain fell nothing matured or dried. This god of rain water created many servants, small of body, who were in the rooms of the aforesaid house, and they held money boxes,<sup>33</sup> in which they caught the water from the great earthen pans, and various rods in the other hand; and when the god of water sent them to irrigate any especial places, they started off with their boxes and sticks, and let fall the water where they were directed, and when it thunders the noise is caused by their striking the boxes with their rods, and when it lightnings it comes from within these boxes. [Phillips, 1884, p. 618.]

The manuscript adds:

Being questioned as to the matter of thunder and lightning, they said that the Water-god had many subjects made by him, who carried each one an earthen money-jug and a rod, and that from these earthen vessels they cast down the rain, and that the thunder was when they struck the vessels with their rods, and that the lightning flashed from these vessels. [Phillips, 1884, p. 638.]

The modern Tlaxcalans of Mt. Malintzi share somewhat similar beliefs, holding the concept of a female mountain spirit, Malintzi, who lives in a cave consisting of vast galleries.

<sup>32a</sup> That the Maya would not be alone in basing double meanings on the water associations is indicated by the rebus approach to certain Mexican place names. From the tribute lists of the Mendoza Codex we find the following place names displaying associations pertinent to the present study (plate references are to Peñafiel, 1885): *Acolman*, water at wrist (pl. 2); *Achioñan*, water from mouth, death (pl. 2); *Alahuiztlan*, water from hand, object in water (pl. 3); *Amazac*, water between legs (pl. 3); *Allicholoayan*, water from (animal) hand (pl. 4); *Chietlan*, water from hand, object in water (?) (pl. 12); *Teocuitlaltan*, water from object in hand, glyph in water (i. e., as source of stream) (pl. 26); *Tlaahuilitlan*, water from container (pl. 29).

Rather than being random, it would appear, the precise way of combining rebus elements in the place names was patterned by religious concepts. Seemingly the water associations were formalized constructs in Mexican thinking and were quick to be utilized in situations having no connection with basic beliefs regarding rainfall. However it is recognized that the ideas combined in place names may occasionally have become a spur to further religious speculation.

<sup>33</sup> "Alcancia, literally, a money-jug of earthenware" (Phillips, 1884, p. 645, No. 12). Pottery vessels, in other words, are held by these dwarfish servants, the tlaloque.

Here are arranged in lines hundreds of *ollas*, or water jars, in which she brews her hails and rains and where she stores fruits and grains and seeds. There are, it seems, many different kinds of hail, each consuming its special kind of plant product. The hailstones are animated and hungry; when they are sent forth by Malintzi they devour, each its own seed or fruit or grain, and carry back to the cavern and store in the great *ollas*. [Starr, 1901, p. 117.]

The keeping of rain and hail in jars and the presence of highly specialized types of precipitation correspond rather closely to ancient Aztec beliefs. The animated hailstones, sent forth by the mountain spirit, are reminiscent of the Aztec *tlaoque*. The pouring of rain from containers is not recorded, however. A somewhat comparable cave-dwelling goddess is closely associated with water jars, water snakes, springs, thunder and lightning, and fierce rainstorms in Huichol belief (Zingg, 1937, p. 340).

In the cave or mountain home of Lightning, according to beliefs of the present-day Zapotec of Mitla, jars contain clouds, or clouds and hail and wind, or clouds and hail and tempest (Parsons, 1936, pp. 212, 213, 330, 331, 332, 538).

Lightning . . . got out a few clouds. He kept them in two large jars. . . . The clouds mounted to the sky. . . . He mounted into the sky and gave a cry, and the clouds understood and it began to rain. . . . The next day when they woke up Lightning told the little boy to take out a few clouds. "I am going," said Lightning, and with the clouds he went up to the sky. He told the little boy to keep the jars closed, but the little boy left them open. Lightning saw that the clouds were coming up and up into the sky. "What is he doing?" said Lightning and he returned on a run and stoppered the jars which were only half full. He said to the boy, "All these clouds have made a lake. Now there will be a very heavy downpour and hail." And he got out a little wind cloud, and a whirlwind came out, a strong wind. Lightning began to cry out for the rain to pass over. It rained for about four hours, then Lightning prevailed and the heavy rain ceased; but the storm had washed the pueblo into the river. [Parsons, 1936, pp. 330-331.]

Lightning, according to another Mitla tale,

had three jars . . . in which he kept the clouds, hail, and the wind, well covered up. . . . He said to the little boy, "Go to Chipaltsingo where it is dry and open this jar, and they will have rain." And the little Lightning went, and the clouds came out, and the fields were refreshed. When enough rain fell, Lightning called out, and the clouds came back into the jar. Another time the big Lightning sent the little one to another pueblo, where by mistake he opened the jar of hail and it destroyed their milpas. [Parsons, 1936, p. 332.]

In one version the jars remain at the home of Lightning, whereas in the second, one of the jars is brought to the desired place where it is opened. The boys who work for Lightning, especially the "little Lightning" of the second version, correspond to the minor Aztec *tlaoque*. The pouring of water is, again, not recorded, although the issuance of clouds from the jars seems to be a related idea.

A vivid picture of the work of the rain god Chac is given in a folk

tale of the Mayas of San Antonio, British Honduras. Chac has a human servant, who corresponds to the little orphan boys working for Lightning in Mitla folklore.

The man thought that he would like to play at being Chac, so he watched how Chac dressed himself when he went out to do his work. One night when Chac was asleep, he took his clothes, his windbag and water-calabash . . . , his axe and his drum. Then he went out and let loose the winds. The winds went screeching off, and the man, who had not the strength of Chac, could not shut them up again. A terrific storm rushed down upon the world. Then he took the calabash to make rain. Now, by pouring out four fingers of water, Chac used to cause a heavy rain. The man upset the whole calabash, and torrents of rain poured down on the earth. He began to beat on the drum, which causes the thunder, but when he tried to stop it, he couldn't. In his effort to stop the thunder the rain and the winds, the man fell into the sea. When Chac woke up, there were no signs of his clothes and his instruments, and the man had disappeared too. He went to one of the other Chacs, for they are very numerous, and borrowed his clothes and his windbag and went out to stop the rain, and put the winds back in their bag and stop the beating of the drum. [Thompson, 1930, p. 149.]

Functions of Chac's paraphernalia are for the most part clearly explained by this tale, and his ax is the lightning (Thompson, 1930, pp. 60, 61). Rain is poured from a calabash container.

The present-day Mayas of the subtribe of X-Cacal, east-central Quintana Roo, have a complex body of beliefs pertaining to rainfall.

The chaacs, also called *ah-hoyas* (the sprinklers) . . . control the clouds and bring the rain . . . They ride across the sky on very thin horses, carrying the rain water in a special calabash called *zayab-chu* (fountain calabash). Not more than a part of the contents of the calabash is ever used up, and it is said that if all the water in the calabash should ever be poured out, a universal deluge would occur and the world would be completely inundated. [Villa, 1945, p. 102.]

The chaacs are numerous and form a hierarchy. First come the four *nucuch-chaacs* (great chaacs), who stand in the sky at the four cardinal points. [Villa, 1945, p. 102.]

Besides these cardinal chaacs are an indefinite number of others. Each one has the duty of producing some of the various kinds of rain or some of the many meteorological phenomena that accompany it. Ah-thoxon-caan-chaac (distributor-sky-chaac) produces fine persistent rain; Bulen-caan-chaac (flooding-sky-chaac) brings heavy downpours; Hohop-caan-chaac (lightning-sky-chaac) causes the lightning; Mizen-caan-chaac (sweeper-sky-chaac) goes about cleaning the sky after the rainfall. [Villa, 1945, p. 102.]

The east has greater importance than any of the other cardinal points. It is there that the rain gods assemble to make their decisions before going out to water the earth, and it is from that direction that the first thunders sound to announce the coming of the rains. [Villa, 1945, p. 155.]

The pouring of water from a container and the existence of specialized types of rainfall are, again, to be noted. Highland Guatemalan folklore offers comparable features. At San Antonio Palop6, the red rain god is believed to pour heavy rain from his large gourd, whereas

the white rain god sprinkles drizzling rain from his small gourd (Redfield, 1946, p. 134).

By the modern Mayas of Chan Kom, Yucatan, the chacs are commonly called "the sprinklers" (*Ah-hoyaob*). One of the chacs, x-thup-chaac (least of the chaacs) makes rain fall in torrents when he passes over the milpas.

He carries a small calabash known as zaayam-chu ("inexhaustible water-carrier"). This calabash is mysteriously connected with the cenotes. As the x-thup-chaac rides over each cenote, with a roar the water from the cenote passes up into the air to fill his calabash again. [Redfield and Villa, 1934, p. 115.]

The chaacs are visualized as old men who ride on horses which are seen as clouds. Each rider holds a gourd vessel containing the waters of the rain, and brandishes a machete-like object known as lelem, which produces the lightning. [Redfield and Villa, 1934, p. 116.]

In the cha-chaac rainmaking ceremony, the impersonator of the chac carries a small calabash (Redfield and Villa, 1934, pp. 115, 142).

Ceremonies to the chacs and Itzamna, and to the lightning (Macon), performed at the time of the Conquest by Yucatecan Mayas (Tozzer, 1941, pp. 162-163) and Chol-speaking Lacandonos (Tozzer, 1913, p. 504), probably symbolize the pouring of rain from containers. In these ceremonies fires were quenched with water poured from jars by men who, among the Lacandonos at least, personified the deity. It is stated that the purpose of the Yucatecan ceremony was to obtain plentiful rain. Water is emptied from containers in rain-bringing ritual among the present-day Zapotec (Fuente, 1947, pp. 482-483).

From the preceding passages, it is possible to abstract certain Mesoamerican beliefs more or less directly connected with the association of rainwater and a container. (1) Water is frequently poured directly from the container. (2) Different vessels contain different types of precipitation; beneficial rain, harmful rain, and hail, among others. Clouds and wind may also be stored in containers. (3) An indirect association sometimes exists between a vessel and the rain. Thus, clouds issue from the container, and the rain, in turn, is produced by the clouds. Or rain, along with other types of precipitation, is brewed within one set of vessels but transferred to a second set, from which the water is actually poured. (4) Other objects—rods, axes, and drums—are sometimes used to produce thunder and lightning. (5) The rainmaker who holds the container is commonly conceived of in anthropomorphic form. (6) A rainmaker is frequently assisted by helpers, who may, through inexperience or specialization of function, cause destructive floods.

The third of these beliefs—the emergence of clouds from a container and the descent of rain from the clouds—might conceivably be applicable to the design on Stela 1, Izapa (pl. 75, a). In discussing

the elaborate scrollwork surrounding the container on the back of the figure, it was suggested that clouds may be shown as the immediate source of the falling water (p. 297).

#### WATER FROM MOUTH

Surprisingly enough, in view of the impressive artistic data, the writer has been able to find but little ethnologic evidence which would indicate the mouth to be directly associated with rainwater. Modern Zapotec rain-bringing ceremonies form an important exception, however. Beverages are sprayed from the mouth, the supplicant then asking for the type of water which is desired. Liquids are again sprinkled from the mouth later in the ceremony, for the specifically stated purpose of causing the saint to send the rain (Fuente, 1947, pp. 482-483).

Certain hieroglyphs or examples of picture writing show water issuing from the mouth, although rainfall may not be intended. Thus it may be of little immediate significance that a Nahuatl place name, *Atlhuelic*, depicts water emerging from a human mouth (Peñafiel, 1885, p. 61). Seler has written at length about the *atl-tlachinolli* symbol—a design, usually composed of a fire strip intertwined with a stream of water, which frequently leads from the mouth. The symbol is considered to signify war (Seler, 1902-23, vol. 3, pp. 221-304).<sup>34</sup> A connection with the theme of death and destruction seems probable. Seler also speaks of those "great reservoirs of water," the mountains, whose "jaws . . . must spit water" (Seler, 1902-23, vol. 3, p. 527; Thompson and Richardson, 1939, vol. 3, pp. 221-304). In the Mexican codices, mountains are sometimes shown with streams of water issuing from the conventionalized mouths at their bases. The birth of rivers in the uplands may be recalled in this connection, as well as the intimate association of the rain-bringing Tlalocs with mountains (Sahagun, 1932, pp. 45, 64, 72-73, 133-135). In Maya sculpture, Thompson notes an occurrence of one of his glyphic water symbols—three circles in a triangular arrangement—below the mouth of the moan bird (Thompson, 1950, p. 277, fig. 20, No. 17). Comparison should be made to the placing of a yax sign below the mouth of the same bird (associated with Entry 49) and to figure 23, *a*.

#### WATER FROM EYE

The case is convincing for the association of water and the eye. Some years ago, in an essay on the weeping god, Joyce brought together artistic and ethnological data which indicate the belief in a sympathetic bond between tears and rainfall. The concept was traced

<sup>34</sup> Thompson and Richardson, 1939, vol. 3, pt. 2, pp. 1-48. Designs illustrated by Seler showing the association of this symbol with mouths are his figures 8, 67, 71; many others exist.

from Mexico and the West Indies to Chile and northwestern Argentina (Joyce, 1913). Among the ancient Aztec, child sacrifice took place during the ceremony in the month of Atlcoualco (want of water). According to Sahagun, the presiding deities were Tlaloc, the rain god; Chalchihuitlicue, the goddess of water; and/or Quetzalcoatl, the wind god. Sahagun states that the children were born in litters, and

wherever they passed the people were weeping. . . . If the children cried very much when they took them to the place of sacrifice, those who were with them were glad, because they considered it as a sign that there would be abundant rain. [Sahagun, 1932, p. 73.]

And elsewhere:

If the children who were to be killed cried a great deal and shed many tears they were glad of it, for they took it as a prognostication of a great deal of rain for that year. [Sahagun, 1932, p. 51.]

The more extended version of Sahagun reads:

And if the children went crying, their tears coursing down and bathing their faces, it was said and understood that indeed it would rain. [For] their tears signified rain. Therefore [men] were joyful; thus were their hearts at rest. Hence they said: "Verily, soon rain will set in; yea, now soon we shall have rain." [Anderson and Dibble, 1950-52, bk. 2, p. 44.]

A passage from Sahagun directly associates tears with a different form of precipitation. In the legend telling of the departure of Quetzalcoatl from Tula, it is stated:

Thereupon he [Quetzalcoatl] looked toward Tula, and then wept; as one sobbing he wept. Now he shed two hailstones as tears over his face. . . . [Anderson and Dibble, 1950-52, bk. 3, p. 32.]

Among the present-day Maya of Chan Kom, the tortoise is particularly associated with the chaacs or rain gods, as it inhabits their homes in the cenotes. Redfield and Villa state:

The tortoise is bound to man by a curious sympathy. When the woods are wet and the earth is moist, then the tortoise is not seen. But when drought has dried the water-holes and the land is thirsty and the maize may fail, then the tortoise walks abroad. He takes the paths that men take, and the villager meets him on his road to the milpa. All have thus encountered him, pausing in the burning sun, his shell dry and hot, but his eyes filled with tears. The tortoise weeps for men and it is said that his tears draw the rain. [Redfield and Villa, 1934, p. 207.]

These data strongly suggest that the widespread principle of sympathetic or imitative magic is operative. Nevertheless, the human emotions of sorrow and pity may enter into these beliefs. Perhaps the tears of the children and the tortoises evoke mercy in the supernaturals, thereby causing them voluntarily to send rain. Clearly, there need be no necessary conflict in these explanations, as magical and religious practices may be blended. In any case, an association is indicated between tears and rainfall.

A more direct connection may also exist between the eye and water. Joyce believes the Maya day sign Ik to "suggest an eyelid with one or more tears falling from it" (Joyce, 1913, p. 371, fig. 9, *b-e*).<sup>35</sup> As Thompson also points out, this T-shaped element recurs in the name glyph of God B, who presumably is the anthropomorphic rain deity, Chac; additional evidence indicates that the symbol has aquatic connotations (Thompson, 1950, pp. 73, 133, 277). All this suggests that in the Maya hieroglyphs rain may actually be shown descending from the eye of the god.

Additional glyphic symbols which Thompson believes to have pluvial associations occur in the eye of several supernatural beings of the Maya. One of these elements, a spiral, is frequently placed in the eyes of the moan bird, God B, and the Long-nosed God (Thompson 1950, pp. 114, 277-278, fig. 20). It will be seen to occur in the eyes of many of the water producers illustrated herein. Another water symbol recognized by Thompson, three circles in a triangular arrangement, occurs in the eyes of the moan bird (tun glyph) and Goddess I (Thompson, 1950, p. 277). If the identification of these elements as water symbols is correct, additional weight is given to the association of rainfall with the eye and tears.

#### WATER FROM BREAST

With the exception of what Thompson so aptly refers to as Itzamna's "cryptic remark," suggesting a possible association of milk (*itz*, *kab*) and the clouds, the writer knows of no ethnological or documentary data which would connect the female breast with rainwater.

#### WATER FROM BETWEEN LEGS

In addition to the complex of ideas connected with *itz* (semen) and *akzah* (urine), another chain of associations in Maya language and religion indicates a relationship to rainfall. As the data, concerning the *bul-eb* bug, also seem to relate to the presence of the day sign Eb in water on Dresden 74, they are taken up in that connection (see "Glyph in Water," below).

#### WATER FROM BODY (PORES?)

Little if any truly convincing evidence exists for a linkage, in Mesoamerican beliefs, between sweat and rainfall. One of the meanings of *itz* may constitute an exception. Then too, the concept

<sup>35</sup> Joyce (1913, fig. 8, 10-13) identifies several representations from Mexico and Central America as showing the weeping eye. These have not been tabulated, partly because doubt may sometimes exist if tears, or, e. g., plucked out eyes are shown.

that water falls from the body does occur. Villa, writing of the present day Maya of X-Cacal, Quintana Roo, states:

Sometimes the chaacs [who pour rain water from calabashes] are accompanied by the Virgin Mary (*Cichpan Colel*), who rides on a fat black horse. She carries no calabash, but water falls in torrents from the body of her horse. There is no danger of floods from this water, however, for it collects in subterranean channels leading to two cenotes, unknown to men, that can never be filled. [Villa, 1945, p. 102.]

As related above, the chaacs are believed by the X-Cacal Maya to ride across the sky on thin horses, while at Chan Kom the chaacs "ride on horses which are seen as clouds" (Redfield and Villa, 1934 p. 116). Tozzer (1907, p. 157) records that among the Yucatecan Maya the lightning is the whip with which the rain gods lash their horses. One is forcibly reminded of Tzimin Chac, the "Thunder Horse" which Cortez had left with the Itza at Lake Peten on his march to Honduras and which in later times was worshiped in the form of an idol (Morley, 1937-38, vol. 1, pp. 29-30, 33). More to the point of the present discussion, it is possible that the emergence of water from the body of the Virgin's horse finds a prototype in the secretion of sweat. This is speculative but, if correct, could suggest that the exuding drops referable to Itzamna's names relate to physiological functions rather than to the quantity or character of the rain-water. For the rain is described as falling in torrents from the body of the Virgin's cloud-horse, not oozing from it.<sup>36</sup>

It has been assumed up to this point, on the basis of the apparent Maya tendency to generalize in terms of the various liquid-secreting functions of the body, that when rain falls from the body, sweat serves as its prototype. This view may be erroneous. A present-day Chorti belief suggests a different explanation for the phenomena of rain falling from, or close to, the body. The Chicchans are mythical serpents, often associated with the sky. Wisdom (1940, p. 394) notes: "Cloud-bursts and violent rainstorms are caused by the swift passage of a female Chicchan across the sky, the impact of her body against the clouds causing the water to fall." Such a concept could perhaps be

<sup>36</sup> The danger of regarding post-Spanish beliefs as corresponding in detail to aboriginal concepts is recognized. The transference of rainmaking qualities to the horse, may however, find a ready explanation. New, powerful, and centaurlike with its rider, the horse might easily be regarded with supernatural awe. Arquebuses fired from the back of the horse during the Conquest perhaps suggested thunder and lightning (Morley, 1937-38, p. 29). Could the thundering hoofs of galloping horses have contributed to this association? Landa's description of the tapir may also prove enlightening. "They call it *trimin*," he states, "and from these they have given their name to horses." Again, "It [the tapir] is an animal very fond of water . . . and has . . . a small proboscis on its snout in which it holds water" (Landa in Tozzer, 1941, p. 203). Possibly the tapir's trunk served as a prototype for the long proboscis of the Long-nosed God (but cf. Tozzer and Allen, 1910, pp. 353-354); if so, the aquatic associations of this animal would presumably be increased. In any event, some tendency to connect the tapir with water is evidenced by Landa's informants. Possibly these ideas, along with the tapir's name, became transferred to the horse in post-Spanish times. Clearly, all this is speculation; and it does not bear crucially on the direct water associations, with which the paper is primarily concerned. While on the subject, however, one further quality of the horse should perhaps be noted—its tendency to sweat freely, its coat thereby becoming covered with a heavy lather.

manifested in designs on the order of Entry 25, Tulum, or in the modern X-Cacal belief in torrents of rain which fall from the body of the Virgin's horse.<sup>37</sup>

#### WATER FROM HAND

Nonartistic data of uncertain significance may indicate an association between water and the hand. It has been noted that Maya *kab* relates to exuding or dripping liquids, as well as meaning "hand." Following Lizana (1893, p. 5), Thompson notes that a representation of Itzamna's (Kab Ul's) hand was kept in a temple at Izamal and that the name Kab Ul signifies the "working hand," "the hand that works," Ah Kabul would be "he who works with his hands" (Thompson, 1939, pp. 50, 153; 1950, p. 266). According to Thompson (1939, p. 153), "the association with the hand might well have been secondary, arising from the double meaning of the word." A slightly different hypothesis, which relates Thompson's data to the direct water associations, is offered. In his manifestation as Kab Ul, Itzamna was believed to sprinkle water from his hand. Both meanings of the word *kab* would thus be reflected in his activities.

Among the modern Maya of both Chan Kom and X-Cacal, the chaacs are known collectively as *Ah-hoyaob*, "the sprinklers" (Redfield and Villa, 1934, p. 115; Villa, 1945, p. 102). The name suggests the possibility that water is sprinkled by hand from the calabashes which they carry as they pass through the sky, although no definite statement to this effect is given. In the *cha-chaac* ("bring-rain") ceremony observed at Chan Kom, an altar was sprinkled with balche from the hand while a frog impersonator imitated the sound of thunder with his voice and the flash of lightning with his wooden machete (Redfield and Villa, 1934, p. 142, pl. 13, *b*). Redfield and Villa remark, "This sprinkling of balche, so much used in all these agricultural ceremonies, is the devise whereby things and persons are safely conveyed from the world of the secular to that of the sacred, and back again." In this case, however, the sprinkling of balche is coincident with other actions which patently imitate thunderstorms. There seems every reason to believe, therefore, that the sprinkling of balche is a form of sympathetic magic, and that, whatever else its function, it may duplicate a specific action of the rain gods. This is particularly true inasmuch as in the *cha-chaac* ceremony at the nearby village of Piste, balche spilled from a swinging gourd is regarded as a symbol of rainfall (Redfield and Villa, 1934, p. 143).

In Quetzaltepeque, Guatemala, modern Chorti Maya believe that

<sup>37</sup> It may merely be coincidence that heavy downpours are associated with female Maya deities in the cases of the Chicchan, the Virgin, and Goddess I. Torrents which fall from the Virgin's horse are not harmful, although this could reflect a post-Conquest rationalization which put the female rainmaker's water in accordance with the Virgin's attributes of mercy.

the activities of an official known as the *capitan* and his wife have a connection with the fall of rain. Of the wife Wisdom states:

One of her chief duties is to sprinkle the floors of her houses with water every day during the year, and especially when rain is desired, as this is believed to bring on the rain and to keep it coming. [Wisdom, 1940, p. 376.]

Among the Cora, the Morning Star is believed to throw blessed water upon the earth. He may do this from the hands, although in the corresponding ceremony water is sprinkled from an orchid (Lumholtz, 1902, vol. 1, p. 525).

Data supplied by Sahagun about ancient Aztec beliefs and ritual practices serve to link the Tlalocs with precipitation which may be scattered from the hand:

To him [Tlaloc] was attributed the rain; for he made it, he caused it to come down, he scattered the rain like seed, and also the hail. [Anderson and Dibble, 1950-52, bk. 1, p. 2.]

Of O pochтли, one of the Tlalocs:

And when his feast was celebrated . . . they strewed toasted [pop-] corn grains like hailstones, or like scattered dice. [Anderson and Dibble, 1950-52, bk. 1.]

The passages suggest that the scattering of popcorn and, perhaps seeds was associated symbolically with the fall of precipitation.<sup>38</sup> Even more significant, however, is the fact that it is clearly stated that Tlaloc scattered the rain, although whether from his hand or from some other object is not made clear.

Thompson has isolated a number of Maya hieroglyphs which bear upon the problem of the association of water with the hand:

(1) A glyph, probably indicating completion, shows circles falling from a hand with fingers held down. Thompson believes the circles to indicate drops of water, scattered from the hand. In this case, however, his interpretation cannot properly be regarded as evidence independently supporting the association, advanced in this paper, of water and the hand. For, as Thompson points out, he originally had regarded the glyph as showing scattered grains of maize but changed his opinion on the basis of artistic representations, gathered by the writer, which form an important part of the present study (Thompson, 1950, pp. 193-194, fig. 33, Nos. 4-8).

(2) Independently of the present writer, Thompson has isolated the spiral as a water symbol in the Maya hieroglyphs. It is held in the hands of God B in the Dresden Codex and appears in the hand in sculptured glyphs of unknown meaning (Thompson 1950, pp. 114, 277-278, fig. 20, Nos. 21, 22, 25, 26). In the latter, circles appear in connection with the spirals, suggesting drops of water and forming

---

<sup>38</sup> Compare objects, identified by Caso (1942, p. 134) as seeds, falling from the hands at Tepantitla (Entry 4). Compare further the configuration of balanced water and vegetation.

a possible link with the completion (?) sign referred to above. The effect of water rolling out from the hand is well achieved in Thompson's figure 20, No. 25, where falling seeds could scarcely be indicated by the spirals.

(3) In the Dresden Codex, a glyph showing an inverted hand with "peculiar" infix occurs exclusively in almanacs relating to rain. Beings with which it is associated are God B, Goddess I, and a probable king vulture. The glyph in question occurs in the seven almanacs on Dresden 29c-41c, 41b-43b, 65b-69b, 42a-44a. Thompson concludes:

Although this glyph does not appear in every almanac pertaining to rain, its close association with God B and his colleagues in divination for rain, and its absence from almanacs which deal with both rain and lightning storms suggest that when used with the given affixes, it conveys the idea of giving rain to mankind. The reversed position of the hand suggests the act of donation. [Thompson, 1950, p. 267.]

Again, it would be premature to suggest a Maya equivalent for the glyph at this time, although the possibilities of *tz'a*, "to give," and *matan*, "a gift" or "grace or mercy received" are worth bearing in mind. [Thompson, 1950, p. 267.]

The presence in two of the almanacs of Goddess I, universally described as a deity of floods and destruction, conveys the suggestion that more than gifts and mercy were involved. Rather, the present writer would offer the hypothesis that the down-turned hand had an immediate association with rain, i. e., water was believed to be poured or sprinkled from it. In Thompson's figure 42, Nos. 65 and 66, certain affixes could be intended to show an object spilling out from the hand. It is clear, in summary, that an association of some sort between the glyph and rainfall is indicated, although the precise role in this of the hand per se remains a matter of speculation.

#### WATER FROM OTHER OBJECT HELD IN HAND

The documentary sources make it clear that among the Maya the sprinkling of water was sometimes accomplished through the use of an object held in the hand. Landa refers to this object as an aspergillum, Cogolludo as a hyssop, Lopez Medel as "a kind of sprinkler," and the Relación of Valladolid as "a hyssop with many tails of vipers and poisonous snakes tied to it" (in Tozzer, 1941, pp. 105, 224, 148). Landa's account indicates that a bone was wet in water and used for purposes of anointing; Herrera refers to "water which they kept in a bone" (in Tozzer, 1941, pp. 105, 102). The descriptions by Landa, Cogolludo, and Herrera refer to baptismal ceremonies. A fire-walking rite, in which wine was sprinkled on the coals, is the subject of the quotation from the Relación of Valladolid. The latter source seems, moreover, to suggest that sprinkling from the hyssop was a common ritual practice (Relación of Valladolid, in Tozzer, 1941, p. 105).

Tozzer holds that the aspergillum is depicted on pages 100d, 111b of the Codex Madrid; "the triple representation of the rattles . . . shows the movement when shaken." He also suggests that the handles of aspergilla may be known in actual specimens—carved wooden scepters with hollow tops—from the Sacrificial Cenote at Chichén Itzá (Tozzer, 1941, p. 105).

Simpler objects also served as media for sprinkling water. Sahagun describes an Aztec ceremony to one of the Tlalocs, Napa tecutli:

And when it was his feast day, they spoke thus: "He washeth and batheth men; he shaketh and sprinkleth rain upon them." [For] greatly they importuned [rain] of him.

And also each year they slew a man who represented him, a slave.

They arrayed him [like the god], and he carried in his hand a green gourd vessel, in which was water. With a branch he sprinkled people. [Anderson and Dibble, 1950-52, bk. 1, pp. 20-21, fig. 31.]

The impersonator of the god, who is said to have borne a shield ornamented with water-lily flowers and leaves—

went sprinkling the people with water, since they had prayed that they might be benefited. [Anderson and Dibble, 1950-52, bk. 1, p. 21.]

In another ceremony having no apparent reference to rainfall, corpses were sprinkled "with corn leaves dipped in clear water" (Sahagun, 1932, p. 126). A partial correspondence is provided by a ritual act among the modern Lacandones, in which balche or posol from the end of a roll of leaves or spoon is spattered into the air (Tozzer, 1907, pp. 122, 129). In one of the accompanying chants, the substitution of *ha* (water) for the balche which is actually sprinkled may help to establish a conceptual association with water (Tozzer, 1907, pp. 129-130, 181).

#### WATERLIKE DESIGN FROM HEAD

The writer is not aware of any nonartistic data from Mesoamerica which would indicate that water emerges from the head, although such an association seems to be documented, on an ethnologic level, for vegetation (Foster, 1945, pp. 191, 195).

#### GLYPH IN WATER

In addition to the symbols which display the direct water associations, three or four Maya hieroglyphs have immediate significance to the present study. They derive their importance from the fact that with one exception they occur repeatedly attached to designs which are to be identified, on other lines of evidence, as water. These glyphs are the kan cross, the yax sign, the completion or zero symbol, and the day sign, Eb. The latter is known to occur in only a single representation of falling water but has a prominent position in this one instance.

The occurrence of Eb and a possible zero sign in water on page 74 of the Dresden Codex have long been recognized (Förstemann, 1906, p. 266). In 1913, Spinden (p. 67) identified several designs in Maya art as water and noted the occurrence of glyphs within them. Following Spinden's lead, the writer, in an earlier version of the present paper (1946), brought together a number of comparable designs in which the same glyphs occurred. The signs were at that time identified as yax, kan, and completion by Thompson, who shortly thereafter (1950, 1951) made a detailed analysis of their role as water symbols.

Thompson's arguments are too ramified to be followed at length in this space. Certain important factors merit brief attention, however. (1) The great interchangeability of these glyphs as affixes, especially of yax and kan, with one another and with other aquatic symbols recognized by Thompson. (2) The relationship of yax (green) with the day Chicchan (snake) and the serpent god of number nine; hence its extended association with the Chicchan sky serpents who bring rain in modern Chorti belief. (3) The suggested equation in concept of kan (yellow?) with identical cross-in-circle forms in Mesoamerica and closely linked ideas; turquoise (rain, water, the abode of the Tlalocs); jade (rain, water, Chalchihuitlicue as "she of the jade skirt"); the year and its symbols (the meanings of *tun* and *haab* in Yucatec as jade and rain, the moan bird, the trapezoidal element often worn by the Tlalocs). (3a) The appearance of the kan cross in the headdresses of Tlaloc and Cocijo, the rain gods of Teotihuacán and Monte Albán. (4) The interchangeability—as decorative motifs which presumably have symbolic value—of zero, yax, kan, and other water symbols on the piers of House D of the Palace, Palenque (Thompson, 1950, pp. 276–277). (5) It will be noted that of the above evidences, none has an immediate connection with the thesis presented in the present paper. In addition, however, Thompson stresses the occurrence of kan, yax, and completion (zero) in designs that probably depict streams of water.

This applies not only to art motifs but, according to Thompson, to certain glyphs which have an affix comprised of yax, kan, or completion set within water. In many cases, his water as an affix is the same as his "ring of circlets" symbol (Thompson, 1950, p. 277). In other examples, however, it is more linear and corresponds rather closely to the designs in Maya art which are identified in the present paper as streams of falling water. In the glyphs illustrated by Thompson (1950), one or two examples of completion (zero) occur in such a connection (Thompson's figs. 43, No. 1, and perhaps 36, No. 3 (glyph X of the lunar series)). Here the glyphic element and supposed water give the effect of emergence, together with the head of God C, from the mouth of a "celestial monster" (cf. Entries 24,

28, 49, 55). Yax also appears in conjunction with a design somewhat resembling water as identified in the present study (Thompson's fig. 43, No. 19 ("Ben Ich" rainy sky?)) Kan occurs quite frequently in this waterlike setting (Thompson's fig. 34, Nos. 4, 6 (glyph G1 of the lunar series); fig. 43, Nos. 3, 9, 10, 17, 18 ("Ben Ich" bat, "Ben Ich" rainy sky?)). The shell and bone—other aquatic symbols of Thompson's—also appear in conjunction with the waterlike design as affixes (Thompson's fig. 43, Nos. 8, 15, 16, 22). A final point deserves attention before drawing this discussion of the yax-kan-zero glyphs to a close. In glyph G1 of the lunar series, a hand is held in a position identical to that in which it appears when the spiral, another of Thompson's water symbols, seems to roll from it (Thompson's fig. 20, Nos. 25, 26; fig. 34, Nos. 1, 3-7). Inasmuch as God C, held in the palm of the hand, is elsewhere regarded by Thompson as having aquatic value, this correspondence in position may serve as epigraphic evidence strengthening the direct association of water and the hand.

Of the associations of the three glyphs with falling streams, that of yax is perhaps the most readily explained. Water is commonly shown in the codices as green, and the yax sign is apparently connected with the rain-bringing Chicchan celestial snakes (see under "Serpent," below). The significance of the aquatic association of kan—supposedly meaning yellow—is more elusive, and Thompson has, in fact, suggested that the meaning of the kan cross might have been blue or blue-green, the symbol for yellow being unidentified (Thompson, 1950, p. 252). However this may be, a passage from Sahagun is of considerable interest in associating the colors green and yellow with water and with the hand—a complex of ideas that strongly recalls Entries 50-54 at Yaxchilan (figs. 18, *d*, 19, *a-c*). Speaking of the Aztec goddess of vice, Tlaçolteutl, Sahagun states:

Evil and perverseness, debauched living—these Tlaçolteutl offered, inflamed, inspired. And likewise she forgave. At her whim, she removed the corruption; she cleansed, she washed. In her hand lay the [cleansing] green and yellow waters. [Anderson and Dibble, 1950-52, bk. 1, p. 8.]

A comparable passage appears in Seler:

Thus speaks the midwife when four days after its birth she subjects the child to a ceremonious washing: "My son, come to thy mother, thy father, the Lady Chalchiuhtlicue, the Lord Chalchiuhtlatonac . . . enter the water, the blue (*Natlalac*) the yellow (*Tozpalac*), may it wash thee, may it cleanse thee perfectly, may it take from thee the evil which thou hast from the beginning of the world . . ." [Seler, 1901, p. 57; quoted in Anderson and Dibble, 1950-52, bk. 1, p. 8.]

Described as "very precious," the Yellow Waters (*Tozpalatl*) serve as an Aztec place name (Anderson and Dibble, 1950-52, bk. 2, p. 178).

Although highly suggestive data exist, the significance of the day sign Eb in the stream poured by Goddess I on Dresden 74 is a matter of some speculation (pl. 72). Thompson (1950, p. 81) has associated the name Eb with *yeeb* (mist, dew) and by extension mildew, smut, and the destruction of the crops. The hieroglyph Eb is shown with combined symbols of rain (cauac elements) and death (a prominent jawbone). Therefore, as Thompson remarks, the presence of Eb is appropriate in one of the streams of water on Dresden 74, a scene (presumably) showing the destruction of the world by a deluge.

Roys has recently brought together data concerning Eb which relate more immediately to the direct water associations. Pointing out the usual meaning of Eb as "stairs" and of *yeeb* or *yeb* as "dew," he adds (personal communication):

I have run into an insect named *bul-eb*, which is defined as "insecto meador." It lives on the Bacalché tree, and when it swarms, its urine is falling like a drizzle. Sometimes this happens even in the suburbs of Mérida (Pacheco Cruz, 1939, pp. 22-23).

Bul can mean "submerged in a liquid." So I feel now that "eb" means "dew" as much as "yeeb" does. Pío Pérez, however, also defines "bul-eb" as "jarro para sacar agua." [Pío Pérez, 1866-77, p. 33.]

Roys' data are of particular interest because, inferentially,<sup>39</sup> they connect the day sign Eb with the fall of water between the legs and from a jar, as shown on Dresden 74. Again, as in the case of *itz*, *kab*, and *ak* compounds, a conceptual association seems to have taken place, which by the use of double meanings serves to unite somewhat discreet ideas into a closely knit complex.

Some years ago (1933, p. 117) Roys translated a passage from the Book of Chilam Balam of Chumayel, referring to the creation of the uinal, as follows:

On 2 Eb he made the first stairway. It descended from the midst of the heavens, in the midst of the water, when there were neither earth, rocks, nor trees.

The translation calls to mind the occurrences, especially frequent in Mexican art, of various objects in falling streams of water. Roys writes, however (personal communication):

If I were doing the Chumayel over again, I think my preferred translation would be "first dew" or "green dew" instead of "first stairway," although the words can also mean the latter. By the way, rain is green in the Dresden Codex.

Roys' alternative translation of "green dew" for the Eb passage<sup>39</sup> offers a suggestive parallel to the repeated occurrence of the yax (green) sign in probable streams of water in Classic Maya sculpture.

<sup>39</sup> "Ca Eb u mentci yax eb" (Roys, 1933, p. 39).

## OBJECT IN WATER

Weapons of war often appear in the *atl-tlachinolli* symbol, mentioned above in connection with water from the mouth.

## TLALOC

The aquatic associations of Tlaloc are so well established as to require no additional comment. In Mexico there is no difficulty in recognizing this deity whenever it appears, either in the codices or well into the archeological past. Much the same treatment is given a figure which occasionally is shown in Maya art. It has been traditional to refer to this being as Tlaloc, and it seems reasonable to assume that, although far removed from its probable homeland in central Mexico, the figure has retained its associations with rain and water.

## ANTHROPOMORPHIC LONG-NOSED GOD

Data of an artistic nature are abundant which relate the Mayan Long-nosed God (or gods) to water. Spinden's discussion of 40 years ago (1913, pp. 61-69) is still highly valuable in this connection, and it is unnecessary to document the case that at least God B, in the codices, has definite associations with rain. Especially in fairly recent years, God B has usually been identified as Chac, known to be a deity of the rains. Thompson (1939, p. 160) has suggested that a related deity, K, is the anthropomorphic aspect of the sky monster Itzamna. (Cf. Tozzer, 1941, for a summary of various identifications that have been given these long-nosed deities.) In the tables, only full-figure beings are tabulated as the anthropomorphic Long-nosed God, and considerable latitude is allowed the exact shape of the proboscis. It is recognized that isolated heads, classified under different categories, may have important connections with the Long-nosed Gods.

## FEMALE WATER DEITY

Like her brother or consort Tlaloc, the Mexican goddess Chalhuitlicue is known to be intimately associated with water, and her portrayals are readily identifiable. More specifically, she rules over the surface water. The case is quite different for the female water deity of the Maya, Schellhas' Goddess I. Her name has not been established, although a concensus of opinion would perhaps have her a variant of Ixchel, the moon goddess (Tozzer, 1941, p. 10). The moon is strongly connected with water in Mexican belief, although this has not been satisfactorily demonstrated for the Maya (Thompson, 1939, pp. 143-144, 163). A connection with Goddess I has been seen in a legend of the modern Maya wherein an old woman with a water jar, Xkitza, sharpens her fingernails and mutters, "Make my nails

and the bones of my fingers grow" (Thompson, 1930, pp. 122, 136). On the basis of codex portrayals, in any event, Schellhas (1904, p. 31) characterizes Goddess I as "a personification of water in its quality of destroyer, a goddess of floods and cloud-bursts." This opinion has gone unchallenged. In Teotihuacán sculpture, the so-called "Goddess of Waters" (Entry 6) may actually represent a female water deity. Note the occurrence of wavy lines or comparable symbols for water on the skirt of all three beings, Chalchihuitlicue (pl. 74, a), Goddess I (pls. 72, 73, a), and the female of Teotihuacán.

#### BLACK GOD (M, B)

Several black gods are present in the Maya codices, the most prominent of which is Schellhas' M. A wide variety of attributes have been assigned this deity. Traditionally, he has been identified as Ek Chuah, the god of traveling merchants and cacao<sup>40</sup> (Tozzer, 1941, p. 107), with warlike characteristics sometimes being emphasized (Schellhas, 1904, p. 36). Tzultacca, a Kekchi god of the forest, animals, and water, is said to be especially venerated by travelers (Sapper, 1897, pp. 271-272); this vaguely suggests a connection of God M with water. Especially in the Madrid codex, moreover, God M seems frequently to merge in many features with God B. Here a deity with characteristics traditionally ascribable to God B has the drooping lip of M and an eye that duplicates God M's name glyph (Thompson, 1950, p. 76, fig. 13, Nos. 20-23). Schellhas (1904, p. 37) early noted the possibility that a black variant of God B was a deity of the storm.<sup>41</sup> The nature of the one or more black gods which appear in the tables is anything but clear-cut, yet some fundamental connection with water may be indicated.

#### MISCELLANEOUS ANTHROPOMORPHIC FIGURES

Various deities or human figures which are not generally regarded to have strong affiliations with water do, nevertheless, occur in connection with the water associations. Examples are the Mexican Xochipilli (Borgian 57, perhaps Fejervary-Mayer 37) and God N of the Maya (Entry 58).

#### FROG

Frogs and toads are generally thought to have a "natural" connection with rainfall. The frogs' role as the musicians of Chac in the lowland Maya area and its connection with Tlaloc in Mexico are discussed by Thompson (1930, pp. 62, 148-149, 150); attention has

<sup>40</sup> Thompson (1950, p. 76) disagrees with the identification of God M as Ek Chuah, holding instead that M is primarily a deity of hunting.

<sup>41</sup> In modern Maya folklore, Chac "dressed himself in his black clothes" when about to go to work (Thompson, 1930, p. 128). Mexican Tlalocs are often shown as black (Sahagun, 1932, pp. 40, 45).

already been called to the croaking frog impersonators in the Maya *chac-chaac* rainmaking ceremony. Frogs and snakes were kept in a pool at the feet of an image of Tlaloc and during a dance in the god's honor were caught in the mouth and swallowed (Sahagun, 1932, p. 147). On page 12b of the Madrid Codex, God B is pictured with the legs of a frog. A ring of circlets—another of Thompson's water symbols—appears on the forehead of the uinal glyph, which is clearly derived from a frog prototype (Thompson, 1950, pp. 144, 277).

## SERPENT

The snake, too, is generally believed to have an obvious association with water. It is a commonplace to regard the sinuous motion of the snake's body as symbolic of waves. More to the point, a sizable number of Mesoamerican beliefs have been recorded which directly connect the serpent with surface water, rain, and lightning. The subject is much too involved for adequate discussion here, but a few stray facts regarding the relationship of snakes to the anthropomorphic rain deities of the Maya and Mexicans may be noted. In the Maya codices, the serpent, God B, and water are frequently shown together (Tozzer and Allen, 1910, p. 314). As giant celestial snakes or as partly anthropomorphized serpents, the Chicchans are rain and thunder deities of the present-day Chorti (Wisdom, 1940, pp. 392 ff.). It is interesting in this connection that evidence linking the Maya day sign Chicchan (snake) with water symbols has been presented by Thompson (1950, pp. 45, 75, 135, 276, 278, 290). In modern Zoque belief, snakes serve as the whips of the thunderbolts (Cordry and Cordry, 1941, p. 62). In a well-known portrayal of Tlaloc, the goggle eye and mouth are comprised of snakes (Seler, 1902-23, vol. 4, p. 259).<sup>42</sup>

## JAGUAR (OCELOT)

A growing body of evidence and interpretations indicates that the jaguar was closely associated with the rain gods of various Mexican cultures, especially on comparatively early archeological horizons (Covarrubias, 1942; 1946, pp. 165-170; 1947, pp. 83-85, 125, 130, 182-183; Armillas, 1947, p. 168). Jaguar features in "Olmec" art have been considered the prototype of Monte Albán's Cocijo and the Teotihuacán-Aztec Tlaloc figures. It is suggested that in later times

---

<sup>42</sup> From this, Joyce (1913, p. 372) seems to infer that the symbolism of the weeping eye is maintained in connection with Tlaloc. If this is correct, one might go on to say that, by the same line of reasoning, water is also indicated emerging from Tlaloc's mouth. This sort of speculation is indulged in above, in provisionally connecting water from between the legs with serpent heads which decorate loincloth aprons at Izapa (Entry 16) and throughout Classic Maya sculpture. The warning that was given merits repetition, however: the fact that the snake does possess strong aquatic associations makes it justified to speculate in terms of such symbolism but not to base conclusions on these unsupported speculations. Clearly, one cannot legitimately infer water every time a serpent motif appears in Mesoamerican art.

there was an increasing association of the Mexican rain gods with the serpent, at the expense of their jaguar connections.

Whatever the historical realities in regard to the origin and diffusion of the jaguar, a strong ingredient of this animal is apparent in the later Mexican rain gods. This is testified by one of Tlaloc's titles, *Ocelocoatl* (Serpent-Jaguar). Tlaloc's jaguar features seem to be most readily observable in southern Mexico, where, for example, he is sometimes pictured in the codices wearing a jaguar headdress. Jaguar ears occasionally occur in Tlaloc's headdress as well as in that of Chalchihuitlicue (cf. certain earlier representations of Cocijo). Tlaloc's down-turned mouth does not duplicate that of the "Olmec" jaguar but certainly suggests it.

Traditional thinking about the role of the jaguar in Maya religion has been quite different. According to Spinden:

It seems that the drama of nature was partly explained by the conflict between a Jaguar God of the clear sky, the sun, the moon, the stars and the dry season, and a Serpent God of the clouded sky, the storm, the lightning, the rain and the wet season of the year. The planet Venus and, perhaps other planets as well, helped the Serpent God and was inimical to the Jaguar God. [Spinden, 1940 a, pp. 162-163; cf. Spinden, 1940 b, pp. 465-466.]

The front of Altar O, Copán, according to Stromsvik, is

carved to represent a grotesque double-headed animal, half serpent and half jaguar, with a toad curving over the end, and the rain symbol carved on the stomach of the beast. This mythological creature is believed to represent the heavenly forces, the jaguar standing for the dry, the serpent for the rainy, season. These two are always engaged in battle. Rain being the most necessary, the rain god is the more important; but at times of destructive floods he becomes too violent and the dry weather jaguar god must be invoked. [Stromsvik, 1947, pp. 46-47.]

Recently, however, Thompson has included the jaguar as an aquatic symbol common to the Maya and other Mesoamerican centers during the Classic period (Thompson, 1951, p. 36). The Maya god of number nine, associated with the day Chicchan (snake) and rain, is said to have jaguar markings which consist of a paw on the temple and, perhaps, jaguar spots on the chin (Thompson, 1950, p. 135). References to *balam hail* (jaguar rain or water) in post-Conquest Maya writings are also noted by Thompson, who suggests a comparison with Yaxchilan texts that show jaguar glyphs in apparent association with the supposed glyph for rainy sky (Thompson, 1950, p. 298).

Spinden (1913, pp. 77, 135), Thompson (1950, pp. 72, 74, 279), and Rands (1953) have noted the connection of the jaguar and the water lily, a point of possible significance for the animal's aquatic associations. The presence of the water lily reflects the fact that the jaguar is a deity of the underworld, comparable to the Mexican

Tepeyollotl (Heart of the Mountains), according to Thompson. In a different connection, Cordy notes:

A god mentioned in Maya mythology is one known as *Ah Buluc Balam*. In Maya art, the jaguar, *balam*, is sometimes represented with a water lily, i. e., the jaguar is in the water. *Buluc* means "eleven," but it also means "submerged in water." [Cordy, 1946, p. 110.]

#### BIRD

When dealing with Mesoamerican religious concepts, it is dangerous to lump the many species of birds inhabiting the area into a single category. Vastly different attributes may, for example, have been given birds of prey as opposed to other types, let alone the possible variations from one species to another. To establish an aquatic association for one bird may mean little in terms of Aves as a whole. Nevertheless, difficulties in identifying birds in Mesoamerican art according to species, as well as the practical problems involved in tabulating many entries, make a general treatment necessary.

The owl, in particular, may be closely associated with rainfall. Contrary to the opinion which has long prevailed among Maya students, Thompson connects the moan bird or screech owl with water symbols rather than with death (Thompson, 1950, pp. 49, 114-115, 275, 277). He notes that in addition to "screech owl," "moan" has the meaning in Yucatec of "cloudy" and "drizzle." Moreover, a linguistic and conceptual connection is seen between the moan bird and the mythical Tamoanchan of the Mexicans. The descriptive statement, "From the land of the rain and the mist, from Tamoanchan I, Xochiquetzal, came," is felt by Thompson to correspond well with the moan bird's cloud-filled home in the sky. It is of considerable interest, therefore, to note, with Armillas (1945, pp. 10-12), that the owl is closely associated with Tlaloc figures at Teotihuacán; and Thompson (1951) considers the owl to be one of several aquatic symbols widely spread on the Classic horizon in Mesoamerica.<sup>43</sup>

#### MISCELLANEOUS ANIMAL

A few other animals occur as water producers. The peccary and perhaps the scorpion have these associations in the Maya codices (Tozzer and Allen, 1910, p. 291).

<sup>43</sup> But contrast Tozzer and Allen: "In connection with the [Maya] screech owl referring to death, it is interesting to note that among the Nahuas the owl is considered of unlucky augury and is usually found in the 'House of Death' and of 'Drought,' as contrasted with the turkey, considered as a bird of good fortune, and found in the 'House of Rain.'" (Tozzer and Allen, 1910, pp. 339-340. Cf. these authors, p. 328, for associations of the turkey with rain and with Tlaloc; pp. 291, 330 for connections of the king vulture with rain in the Maya codices.)

## SERPENTINE-SAURIAN MONSTER

Perhaps the associations of water which characterize the serpent may hold true for this mythical dragon, as well. Combining features of the snake and of an aquatic animal such as the crocodile, the composite monster seems truly to manifest a connection with water on both sides of its ancestry. Nevertheless, Spinden's warning that the serpent serves primarily artistic rather than religious functions may be useful to remember (Spinden, 1913, pp. 33, 237). The tendency he sees for the Mesoamericans to inject something of the snake into myriad art forms may lessen the value of the serpent-derived motifs as evidence that the concept of water is involved.

Various workers in the Maya field have, however, associated the composite monsters which so frequently occur in the sculptures with water. Thompson, again, has the most definitive statements (Thompson, 1939, pp. 152-160; 1950, pp. 11, 110-111, 274-275).<sup>44</sup> His detailed arguments need not be repeated, but certain conclusions which are important to the present study merit reemphasis. (1) The so-called sky monster or celestial dragon is probably to be identified with Itzamna. (2) Streams of water are sometimes pictured in connection with this monster. (3) Planetary sky bands in the codices, from which rain is commonly shown as falling, are conventionalized segments of the monster's body. (4) The cauac "bunch of grapes" motif, central element in the glyph for the day Cauac ("storm," "thunder," "rain") and one of the most securely identified water symbols, appears frequently on the body of the monster. (5) The moan bird, another water symbol, is frequently depicted immediately above the monster. (6) The fish and water-lily motif, "an undoubtedly aquatic symbolism," is often associated with the monster.

## DETACHED REAR HEAD OF MONSTER

The double-headed Maya sky monster has been described in a previous section. The occurrence of elements suggesting death is marked on its rear head, and according to Thompson the head may represent a manifestation of the sun at the moment of its rising from the underworld (Thompson, 1950, p. 173). The concepts associated with the head may in large part be retained when the head appears independently of the monster's body. Given a human body and shed of the triple symbol, many of these heads would qualify well as the anthropomorphic Long-nosed God (cf. Spinden, 1913, pp. 66-68).

<sup>44</sup> For general treatments of the "Two-headed Dragon" or "Double-headed Monster," cf. Maudslay, 1889-1902, vol. 1, pp. 51-52, vol. 4, p. 37, pls. 92, 93; Spinden, 1913, pp. 53-56.

OTHER GROTESQUE HEAD, FACE

A few other heads or mask panels, some of which may also represent composite supernatural beings, are apparently connected with the direct water associations.

DEATH, MISFORTUNE, DESTRUCTION

Certain data already presented in different connections bear on this configuration. The Mexican *atl-tlachinolli* symbol has a direct relationship to warfare and hence to death and destruction. The frequently warlike guise of the black god in the Maya codices is a point of comparison. The destructive aspects of Goddess I are pronounced but are apparently due to too much water, or perhaps the wrong kind of water, rather than to warfare. The Maya day sign Eb is usually described as an unfortunate one, and it would seem that this is due to the harmful, crop-destroying mildew and smut with which it is associated. Comparisons exist in the several types of harmful precipitation stored in Tlaloc's jars and in the tendency of the rain gods' helpers to cause damaging floods. Finally, the occurrence of death symbols at the rear head of the Maya sky monster may denote a connection with the underworld and thus have reference to more purely cosmological matters than to the complex of ideas specifically associated with misfortune and destruction.

Additional data from Mesoamerican religious concepts may also be applicable. The belief in one or more previous destructions of the world by water was widely held (Seler, 1902-23, vol. 4, pp. 38-64; Tozzer, 1941, p. 136). In Yucatan, the sickness-bringing winds blow from some form of water such as the sea, cenotes, or the rain (Redfield and Villa, 1934, pp. 164-165, 372). Whether the concept of *aires* is basically Indian or Spanish in origin, and opinion seems to lean toward the former explanation, one is reminded of ancient Aztec beliefs in regard to the Tlalocs (Sahagun, 1932, pp. 45, 47; cf. Parsons, 1936, pp. 214-215, 494; Thompson, 1930, p. 62). Parsons (1936, pp. 213, 542), and after her Beals (1945, p. 98), tentatively suggest some connection between rain-bringing spirits and the ancestral dead, on the order of the Pueblo kachinas.

WATER DESCENDING ON SURFACE WATER

The descent of rain upon a representation of surface water suggests either that the land is being inundated, i. e., a universal deluge, or that the rain is falling over some body of water. As of uncertain significance in the latter connection, note the affinity of rain or the rainmakers in Maya belief to cenotes and, possibly, the sea (Redfield and Villa, 1934, pp. 115, 207; Villa, 1945, p. 102; Thompson, 1930,

pp. 128, 149). Tlaloc is described as he who "sent hail and lightning and storms on the water and all dangers of rivers and the sea" (Sahagun, 1932, p. 26).

#### WATER DESCENDING ON FIGURE

It has been suggested, in the discussion of portrayals in the Maya and Mexican codices, that the sprinkling or pouring of water upon human figures does not fit closely into the rainmaking complex with which the study is primarily concerned. Nevertheless, the Mexican rain god Tlaloc was seen to occur in this activity (Nuttall 5). Data presented elsewhere in the present section are of no little interest in this connection. One of the Tlalocs, Napa tecutli, was said by the Aztecs to wash, bathe, and sprinkle rain on men, while the god's impersonator actually sprinkled the people with a branch (Anderson and Dibble, 1950-52, bk. 1, pp. 20-21). Bathing and sprinkling also took place in Mesoamerican baptismal ceremonies (Anderson and Dibble, 1950-52, bk. 1, p. 8; Tozzer, 1941, p. 105),<sup>44a</sup> and the Mexican references to green (blue) and yellow water, cited above in connection with the Maya glyphs yax and kan, occur in contexts denoting ritual purification rather than rainmaking. In one of the examples of yax and kan signs in a stream descending from the hands, the stream gives somewhat the appearance of splashing upon a kneeling human figure (Entry 54).

Additional references abound to the pouring or sprinkling of water on sacrificial victims, corpses, and supernatural beings or impersonators. (See Anderson and Dibble, 1950-52, bk. 2, pp. 130-131, bk. 3, pp. 7, 14, 40, 42, pls. 4, 10.) Compare the configuration of death and destruction in connection with some of these practices.

#### THE BENDING-OVER RAINMAKER

Several factors might contribute to a bending or leaning posture: advanced age; bodily deformity; or the activity performed by the individual, such as leaning or crouching over the vessel from which water is being spilled. It is therefore difficult to know what characteristics to seek in the nonartistic data.

#### THE SKY MONSTER AND ITS AFFILIATES

See under "Serpentine-saurian Monster," "Detached Rear Head of Monster," and "Serpent," above, although it must be remembered that all snakes are not sky snakes. (See Thompson, 1939, pp. 156-160.)

<sup>44a</sup> Cf. Lumboltz, 1902, vol. 2, pp. 57, 177 for the Huichol.

## BALANCED WATER AND VEGETATION

The association of rain and vegetation in Mesoamerican thought is too well known to require documentation here. For some of the specific manifestations that it apparently takes in Mesoamerican art, see "Water and the Water Lily," above. For data of the sort discussed elsewhere in the appendix, note the double meanings of the *ak* words in Yucatecan, relating to the turning green of maize (e. g. *ak*, *ak ixim*, *ak nal*) and a set of ideas concerning soaking, urination, pouring water, and the rainy season (*akzah*, *akzah*, *akci*, *akyaabil*, etc.). (Motul Dictionary, 1929, pp. 115-116; Pío Pérez, 1866-77, pp. 1, 2, 8, 9; Thompson, 1950, p. 282.)

## SUMMARY

It is clear from the foregoing discussion that imposing quantities of established factual data or current opinion can be brought to bear on almost all of the water associations. The material from Mesoamerica could, in several instances, be multiplied. Here, however, it seems of greater significance to evaluate the findings than to pile minutiae on minutiae.

To begin with, it must be recognized that certain of the currently accepted beliefs which relate specific beings to water are based primarily upon artistic evidence. Thus, God B would not be so unanimously accepted as one of the Maya rain gods if he were not so frequently pictured in the codices pouring water out of a jar. Accordingly, no new evidence is being presented when this deity is recorded three or four times in the water-pouring act in the codices (table 1). God B, himself, is no more securely associated with rain than he was prior to the present study. More significantly, the same criticism would apply in part to a claim that several of Thompson's conclusions represent independent evidence supporting the identifications made in this paper. (Note the importance of artistic data in Thompson's conclusions regarding several water symbols (Thompson, 1950, pp. 275-276, figs. 44, 45; p. 193).) However, much of the data are entirely independent of artistic considerations. A second warning merits re-emphasis. Even though the various associations have been proved to exist with water, they may well occur with additional objects that are lacking aquatic associations.

For the most part, the nonartistic data are numerous and their importance great as evidence supporting the identifications. Of the direct water associations, those with containers and perhaps the hands receive the strongest support. The sprinkling of water from an aspergillum or comparable object is well documented, but from the descriptions one would assume these objects to differ considerably from the heads of Tlaloc or the Long-nosed sky monster which, as

has been suggested, may be portrayed as objects for sprinkling. As a consequence, the evidence in this case is not too convincing. Double meanings accorded a number of words in Yucatecan are highly suggestive as evidence that varied physiological functions, whereby liquids are excreted, are to be associated with rainfall. Except in the case of tears, however, there is virtually nothing else which has been found in the way of support from the historical or ethnological sources. So far as the occurrence of glyphs is concerned, *Eb*, through its apparent relationship to the *bul-eb* bug, is more securely associated with nonartistic data than is true of *yax*, *kan*, and completion (zero), although the Aztec pairing of green and yellow water offers a suggestive correspondence to *yax* and *kan* in Maya representations.

The review of the water producers has yielded nothing new in the way of evidence which would suggest their aquatic functions, but the marshaling of old data is in itself impressive. *Tlaloc* and *Chalchihuitlicue* are known to be water deities, and although there may be some doubt as to the specific identity of the Maya deities we know as Goddess I and the Long-nosed God, their intimate association with water is unquestioned. The association of the frog and snake with water is also a matter of record. Thompson (1939) has already argued convincingly for the aquatic nature of the sky monster. To consider the jaguar and the black god or gods of the Maya as closely connected with water is less in keeping with traditional opinion, yet a number of the data lean in that direction.

The nonartistic data have not been particularly rewarding in the case of the configurations. This may arise in part from the complex nature of the configurations. The themes are abstracted from recurrent situations appearing in the art; as a result, they are in a sense less tangible and more implicit. Even if reference is made to them in folklore or in general statements about religious beliefs, they are more difficult to identify. There is always the possibility that, after all, reference is actually being made to something else. Nevertheless, a number of the data relating to death and destruction and to the descent of water on a human figure may be applicable.

Finally, reviewing past work by Thompson (1950), a number of Maya glyphs have been discussed whose elements apparently relate to or symbolize one or another of the direct water associations. For the most part, the glyphs seem to depict or symbolize water either in connection with the hand or with *yax*, *kan*, or completion affixes.

## APPENDIX B

## IDENTIFICATIONS OF SUBJECT MATTER IN MESOAMERICAN ART

It would be premature to set forth a detailed statement of principles about the methodology involved in making identifications of subject matter in Mesoamerican art. Clearly, the procedures have to vary according to the special requirements imposed by the specific problem. The following observations apply particularly to identifications in Maya art, but to varying degrees they are applicable to the art of other cultures. The subject matter involved in the present study, falling streams of water, has considerable illustrative value.

If principles cannot be formally enunciated, at least a number of methodological constructs may be listed and given cursory discussion. These are: (1) Working from the known to the unknown (projecting backward through time); (2) seeking to discover convergence (a result of historical developments that operate upward through time); (3) utilization of traits based on motifs which are subject to ready and meaningful artistic comparison; (4) coupled with this, a willingness to see the artistic creations as a functional whole; (5) differentiating rigorously between the various levels of probability; (6) while making this distinction, a willingness to use data of limited probability as supporting evidence; (7) recognition of complexes, wherein motifs showing important differences nevertheless reveal a common pattern or set of recurrent patterns; (8) maintaining an awareness of alternative explanations and, if possible, subjecting the various possibilities to comparative statistical analysis; (9) a willingness to use clues as to patterns of thinking provided by nonartistic data from the culture in question. Basic to the use of all these constructs is the principle common to all scientific investigation: the simplest explanation is the most probable one. It is apparent, moreover, that the identifications are not subject to absolute proof; it is a matter of relative probabilities, ideally expressed so as to compare one hypothesis with another.

At the core of the present investigation are the first and seventh constructs—working from the known to the unknown and working with highly patterned complexes. A differentiation has been made between the more “purely artistic” and the “nonartistic” data, but this is in a sense arbitrary, for conceptual factors are embodied in the art forms. It may be more useful to equate the artistic factors with the appearance of the streams of water themselves and the conceptual factors with the associations which the streams have. In the case of both artistic and conceptual factors it has been possible to find con-

vincing counterparts of known representations of water in the art of earlier periods or different cultures. The requirements of the first construct have, then, been successfully met. So far as the seventh construct is concerned, the complex of representations may be described as a tightly knit nucleus, wherein the representations are closely allied with one another and with known portrayals of water in the codices, surrounded by a fringe of art forms which are related in varying degrees to the nucleus but which, by and large, lack very close artistic and conceptual correspondences with the known portrayals. Figure 16 is an attempt to show some of the specific connections within the nucleus and to suggest the existence of the fringe part of the complex. The fact that figure 16 can be drawn is in itself a verification of the existence of a well-knit complex, and it must be remembered that many of the data have been omitted from the chart, owing to the requirements of space and effective presentation.

What exactly is the theoretical significance of such a complex? It will help to bring the problem into sharper focus if we restrict discussion for the moment to the nuclear part of the complex. A fairly wide range is displayed, conceptually and artistically. Conceivably, this might be the result of random factors—changes in art style, diffusion of ideas from new sources or the elimination of old contacts, individual whim on the part of the artist—factors known to be of great importance in culture history but which are fortuitous from the standpoint of the present conceptually oriented investigation. If these factors were operative exclusively, one would expect the divergence to be of a random sort. There would be no network of common conceptual threads which would consistently weave the divergent designs into a whole. A concrete illustration may be helpful. As a result of purely stylistic factors—elements of design in the artist's repertoire, need for a balanced composition, and so on—a given motif might resemble water shown gushing from the mouth of the sky monster on Dresden 74. But if sheer artistic factors were at play, would the design likewise be associated with a portion of the sky monster? Rarely, perhaps; coincidences are to be expected in the outer ranges of a normal distribution curve. But would this same motif, associated with the sky monster both in its appearance and in its associations, tie in closely with a series of designs having certain *artistic* resemblances with the water on Dresden 74 but *associational* resemblances with water at Teotihuacán? The odds against this happening by chance rise rapidly. The examples cited are Entries 35 at Palenque and 50 to 54 at Yaxchilan. One could go on to cite additional representations linked to them, deriving support from them, and at the same time

reinforcing them because of their own particular resemblances to the same or to some other known portrayal of water.

The complex is not nearly so closely knit if it is viewed as a whole, no distinction being made between the nucleus and the outer fringe. The fringe motifs have their importance, however, for there are a number of interconnecting links with the nucleus. Here we might pause to examine more closely the relationship of fringe and nucleus. What is the validity of setting them apart, even provisionally, as was done in the last paragraph? If the fang-tongue-water (?) motif is disregarded for the moment, it will be seen that the fringe associations are largely the same as for the nucleus, but fewer tend to occur in a given representation. There is a qualitative difference too, however; for by and large the fringe motifs lack artistic connections with known portrayals of water, thereby sharply contrasting with the nucleus. All this seems to suggest the portrayal of religious paraphernalia, which with some attenuation retains the associations given the water itself but which is usually so highly conventionalized as to suppress artistic resemblances to water. In the case of the fang-tongue-water (?) motif, the associations tend to form more of a self-contained subcomplex, although once again there are a number of outside ties. In all of this, the fifth and sixth constructs should be borne in mind, a rigorous differentiation between different levels of probability ("A" and "B"), coupled with the use of motifs of "B" category for what they may be worth as evidence to support representations of higher probability (e. g., the evidence of fig. 23, *a*, in knitting even more closely the complex of yax, kan, and completion glyphs). In this it should be remembered that analogy cannot properly be made to a chain, which is only as strong as its weakest link, but rather to a rope, where each strand plays a reinforcing role.

The complexes to which reference is made are, of course, subject to change through time and space. It is the underlying patterns which tend to remain relatively constant but to take on particular manifestations. Special historical developments may, however, basically alter a particular representation so that it no longer faithfully reflects the underlying pattern. This is to say that convergence may take place. If this has occurred, it should be possible to fit the representation in question into two complexes which, for the most part, are sharply differentiated. This has been examined in some detail in the case of waterlike designs, from the sky monster's rear head, that have the associations normally given vegetation (pp. 330-331). If possible, of course, the historical sequences of the diverging art forms should

be known, but it seems possible to make reasonable inferences even in their absence.

Little need be said about the third construct, the need for utilizing traits which adapt themselves readily to meaningful artistic comparisons. One should be careful, for example, to distinguish between stylistic factors and the elements that go to make up the particular motif. Typologies here, as elsewhere, may be too general or too elaborated to have much comparative value. The isolation of workable traits should not be to the exclusion of attempts to see them in their functional whole, however. To illustrate the value of the less restricted approach, a short interpretative description will be given of the way in which the waterlike elements combine on Zoomorph P, Quirigua (table 3).

Zoomorph P is a carved boulder representing the double-headed monster. The monster is not a close counterpart of the one shown on Dresden 74; the body is not composed of a band of planetary symbols; hence a creature of the sky may not necessarily be shown. The precedent of Dresden 74 is, then, not brought powerfully to bear for the existence of aquatic associations. The sculpture has, however, been traditionally held to be rich in water symbolism (Spinden, 1913, p. 42, fig. 32, *b, c*). The frequent portrayal of cauac elements would in itself establish strong aquatic connotations, unless past research is badly awry (cf. Thompson, 1950, pp. 87, 110-111, 112). The water-pouring figures on the north face of the monument (Entries 45b, 46c, fig. 21, *a, b*) do not occur as isolated entities. As Maudslay's schematic drawing clearly shows, the cartouches in which they appear surge outward from the corners of the mouth of the monster's front head (Maudslay, 1889-1902, vol. 2, pl. 58, *c*). This is the typical treatment accorded fangs in Maya art (as well as sometimes the water lily), and probably fangs were the basic concept involved. It probably is not a coincidence, however, that streams of water are shown overlying the fangs which lead from the mouth. One may suppose that the priest-artists recognized the potential double meaning inherent in the design and played upon it, just as in the hieroglyphs and post-Conquest writings, punning of a rebus sort was constantly being employed (see Appendix A and Thompson, 1950, pp. 46-48). If this lesson is taken to heart, it is possible that the anomalies in the portrayals of possible water and vegetation or in the fang-tongue-water (?) motif will be resolved. Convergence may have taken place through purposeful substitution, without losing sight of the concepts involved. Other water pourers occur immediately above the eyes on the sides of the monster (Entries 46d-f, fig.

22, *a-c*). It is possible that these locations, too, are not accidental, as the presence near the eyes could denote weeping and rainfall. The case is not as convincing as with the water pourers that overlie the fangs, however. As has been noted, water and the water lily are balanced effectively on the monument (Entry 46a, fig. 23, *f*; perhaps also Entry 46g, *h*, fig. 23, *g*). To these specific representations there should be added the appearance of the monster's front head as a functioning, dynamic unit. It has just been suggested that the monster's fangs carry the connotations of water. At the top of the boulder, as the creature's headdress or growing from its head, are sculptured leaves of the water-lily plant (Rands, 1953, p. 106). The motif encountered elsewhere (e. g., fig. 23, *d*, Tikal), of a water lily growing from the head while water emerges from the mouth, is very likely expressed symbolically.

The ninth construct, the use of patterns of thinking inferred from nonartistic data, was employed in the analysis of Zoomorph P. It would appear that for the Maya, at least, the principles behind rebus writing can to some extent be used in studying the artistic creations. They would appear nicely to complement Spinden's more purely artistic approach to the same general phenomena, subsumed under the terms simplification, elaboration, elimination, and especially substitution (Spinden, 1913, pp. 38-46; cf. Rands, 1953, p. 122).

Of the various constructs the eighth, the consideration of alternative explanations, is perhaps most weakly developed in the present study. True, some attention has been given fang, tongue, teeth, and vegetation, but it was of a rather cursory nature. So far as liquids are concerned, it is well to recall the assumption, expressed in an earlier section, that if the complex as a whole is rooted in aquatic symbolism, it would not be of crucial importance if a few of the representations should actually prove to depict blood or some beverage. For ethnologic data reveal many instances in which such a substitution took place in rainmaking rites and magic. If this is true in too many instances, of course, the case breaks down. A careful documentation of the relative strengths and weaknesses of the many other possibilities which might come to mind is lengthy, involved, and cannot be made here. One suspects that it would not be worth while, at least for some of the more remote possibilities. Until a case comparable in detail to the present one is made, however, it is impossible to say much along these lines other than that it is the writer's considered belief that the associational and artistic ties are much stronger with water than with any other object of which he knows. Perhaps an even stronger conclusion is that some definite concept, water or

otherwise, is expressed by a majority of the representations. Although convergence did take place and differences in meaning must have become blurred on occasion, it seems impossible to explain the existence of the nuclear complex without granting the existence and importance of conceptual factors.

#### APPENDIX C

##### NOTES ON THE TABLES

Symbols used in tables 1, 2, 3, and 6 are: "X", to indicate the presence of a trait, "?" or more rarely "??", to express possible occurrences, "0", to signify that the trait in question, or something approximating it, occurs importantly in the same representation but not in immediate association with water, and "-----", denoting absence of the trait. Arbitrary decisions have sometimes been necessary to decide whether the indirect "0" associations are of sufficient significance to be included.

The portrayals of water are too infrequent to make numerical totals of much significance. Thus in the summary table, 6, presences and possible presences are indicated without regard to the frequency of the trait. In table 5, numerical totals refer to the number of times a specific glyph occurs in the supposed stream or streams of water.

Asterisks serve a dual function. In table 3 they indicate the possible presence of a trait on Zoomorph P, Quirigua, as inferred from the relationships of the motifs to the sculpture as a whole (Appendix B). In table 5, again, asterisks suggest that the trait may be expressed symbolically, although glyphs are not actually in contact with water. In table 4 the asterisks signify that the dating is based on intensive stylistic analyses made by Proskouriakoff (1950). The dates, given only for the Maya monuments, indicate baktun, katun, and tun.

Letters also serve a dual function. In tables 2 and 3 they indicate probabilities, "A" being relatively high and "B" relatively low. The B category is in some cases subdivided by the use of plus signs. In most, although not all, cases the representations of A probability constitute the nuclear complex and B the fringe (fig. 16, Appendix A). Some merging of the high and low categories tends to occur, but it is not marked.

In table 4, letters are used arbitrarily to refer to the artistic typology set up for waterlike designs in Classic Maya art. "A" indicates the

columnar stream, "B" the divided stream, and "C" the fang-tongue-water (?) motif. Variant representations are indicated by interrogation points. Artistic types are given only for Maya sculptures, murals, and ceramics.

In "Number of representations" (tables 2, 3) the total refers to the number of beings associated with waterlike designs. Thus, if waterlike motifs occur with both front and rear heads of a single monster, a single representation is recorded. If, however, the heads are detached although presumed relating to a single being, the number of isolated heads with which the pertinent designs occur is given.

If two or more representations of differing probabilities appear on a single monument, only the highest probability is recorded. In such a case, however, the occurrence of traits for the less certain representation may be marked by interrogation points. On the other hand, if the highest or only probability given for a monument is B, traits are accorded a positive (X) occurrence. This differential treatment would decrease the reliability of any totals which might be gotten but gives insight into the particular situation on a given monument.

The titles of the tables are self-explanatory. For additional data on the reading and significance of the tables, see pages 291, 302, 329, 335, and 350.











TABLE 4.—*The occurrences of water: Dates, artistic types, and previous illustrations*

Entry No.	Site and monument	Date	Type <sup>1</sup>	Illustration <sup>2</sup>
1	Tenochtitlan (?)			Seler, 1902-23, vol. 4, pl. 7, a, b.
2	Teotihuacán, Atetelco			Villagra Caletti, 1951, fig. 12.
3	Teotihuacán, Teopancaxco			Peñañel, 1900, pls. 81-83, 85-87.
4	Teotihuacán, Tepantitla			Caso, 1942.
5	Teotihuacán, Tetitla			Armillas, 1950, pl. 14; Villagra Caletti, 1951, fig. 13; Marquina, 1951, fots. 32 bis, 33; Anonymous, 1947, fig. 124.
6	Teotihuacán, "Goddess of Water"			Anonymous, 1946, fig. 18.
7	Teotihuacán, "Tlaloc's emblem"			Anonymous, 1946, fig. 14.
8	Teotihuacán			Anonymous, 1946, fig. 27.
9	Teotihuacán, Aljojuca			Seler, 1913, fig. 9.
10	Teotihuacán, Calpulalpan			Linné, 1942, figs. 170-174.
11	Teotihuacán, Xolapan			Linné, 1934, fig. 26.
12	Teotihuacán			Von Winning, 1947b, fig. 1.
13	Teotihuacán			Von Winning, 1948, fig. 29.
14	Monte Alban, Tomb 105			Caso, 1938, pl. 3.
15	Cerro de las Mesas, Monument 2			Stirling, 1943, pl. 31, a.
16	Izapa, Stela 1			Stirling, 1943, pl. 49, a.
17	Izapa, Stela 5			Stirling, 1943, pl. 52.
18	Izapa, Stela 11			Stirling, 1943, pl. 53, a.
19	Monte Alban, Stela 11			Caso, 1928, fig. 58.
20	Tres Zapotes, Stela C	?		Stirling, 1940, fig. 7.
21	Tres Zapotes, Monument C			Stirling, 1943, pls. 5, 6.
22	Chalchuapa zone			CIW, † No. 42-16-1411A.
23	Kaminaljuyú			Borhegyi, 1950b, fig. 5, b, e, f.
23a	Kaminaljuyú			Kidder, Jennings and Shook, fig. 175, a.
24	Bonampak, Str. 1, Rm. 3	9. 17. 10?*	C (?)	Villagra Caletti, 1949.
25	Tulum, Castillo			Lothrop, pl. 4B.
26	Copán, Stela D	9. 15. 5	A	Maudslay, vol. 1, pl. 46B.
27	Copán, Stela H	9. 15. 0?	?	Maudslay, vol. 1, pl. 59 [A].
28	Copán, Stela 6	9. 12. 10	C	Maudslay, vol. 1, pls. 105, a, 106.
29	Copán, Temple 22		A	Maudslay, vol. 1, pl. 19, c; CIW, † No. 39-13B-321.
30	Copán, Temple 26	9. 16. 5?	B, C (?)	Gordon, 1902, pl. 14; CIW, † Nos. 37-13C-13, 37-13-220.
31	Finca Encanto, tablets		A	Blom, 1924, figs. 1, 2.
32	Jonuta, relief		B	Proskouriakoff, fig. 69, b.
33	Kabah, Str. 2C6		B	Proskouriakoff, fig. 103, a, b.
34	Palenque, House E	9. 12. 0?*	A	Maudslay, vol. 4, pl. 43.
35	Palenque, Cross	9. 14. 10?*	A	Maudslay, vol. 4, pls. 71, 76.
36	Palenque, Sun	9. 14. 10?*	A	Maudslay, vol. 4, pl. 86.
37	Palenque, Foliated Cross	9. 15. 0?*	A (?)	Maudslay, vol. 4, pl. 81; Blom and LaFarge, vol. 1, fig. 162.
38	Piedras Negras, Stela 2	9. 13. 15	C	Maler, 1901, pl. 15, No. 1.
39	Piedras Negras, Stela 5	9. 14. 5	C (?)	Maler, 1901, pl. 15, No. 2.
40	Piedras Negras, Stela 6	9. 12. 15	B (?)	Maler, 1901, pl. 15, No. 3.
41	Piedras Negras, Stela 11	9. 15. 0	B	Maler, 1901, pl. 20, No. 1.
42	Piedras Negras, Stela 14	9. 15. 10?*	?	Maler, 1901, pl. 20, No. 2.
43	Quirigua, Stela A	9. 17. 5	A	Maudslay, vol. 2, pl. 4.
44	Quirigua, Stela C	9. 17. 5	A	Maudslay, vol. 2, pl. 16.
45	Quirigua, Stela H	9. 16. 0	A	Maudslay, vol. 2, pl. 45.
46	Quirigua, Zoomorph P	9. 18. 5?	B, C (?)	Maudslay, vol. 2, pls. 58, a, 60, a, b, 62, 64.
47	Tikal, Stela 9	9. 2. 0	C	Maler, 1911, pl. 20, No. 2.
48	Tikal, Temple IV, Lintel 2	9. 16. 10?*	C	Maudslay, vol. 3, pl. 71.
49	Tikal, Temple IV, Lintel 3	9. 16. 10?*	C (?)	Maudslay, vol. 3, pl. 78.
50	Yaxchilan, Stela 1		A, C	Maler, 1903, pl. 69.
51	Yaxchilan, Stela 3	9. 16. 10?*	A, C	Morley, 1937-38, vol. 5, pl. 100, c.
52	Yaxchilan, Stela 4	9. 17. 0?*	A, C	Maler, 1903, pl. 70.
53	Yaxchilan, Stela 6	9. 14. 0?*	B, C	Morley, 1937-38, pl. 101, d.
54	Yaxchilan, Stela 7	9. 15. 10?*	B, C	Morley, 1937-38, pl. 100, d.
55	Yaxchilan, Lintel 25	9. 17. 10?*	C (?)	Maudslay, vol. 2, pl. 87.
56	Chalchuapa zone		B (?)	CIW, † Nos. 42-16-1216 A to E.
57	Chama		B	Dieseldorff, vol. 1, pl. 22.
58	Chama		?	Dieseldorff, vol. 1, fig. 237.
59	Chama		A	Dieseldorff, vol. 1, pl. 18.
60	La Ceiba		B	Strong, Kidder and Paul, pl. 1.
61	Livingstone		A	Seler, 1902-23, vol. 3, fig. 24 (p. 682).
62	Quintana Roo		A (?)	Blom, 1950, fig. 1, a.
63	Salvador (Nexapa)		A, B	Spinden, 1928 a, fig. 24; Vaillant, 1928, p. 573.
64	Uaxactun		C	Smith, pl. 5.
65	Ulua Valley		B (?)	Hay et al., pl. 17.
66	Yalloch		A	Gordon and Mason, pt. 1, pl. 18.

†Photographic files, Department of Archaeology, Carnegie Institution of Washington.

\* Estimated dates based on stylistic analysis (Proskouriakoff, 1950, pp. 185-199).

<sup>1</sup> "A" signifies the columnar stream, "B" the divided stream, and "C" the fan-tongue-water (?) motif.

<sup>2</sup> Date of publication is omitted if a single work by an author appears in Literature Cited.

<sup>3</sup> Estimated date not based on the stucco design of the sky monster.

TABLE 5.—Occurrences of glyphs in Maya "water"

Representation	Comple- tion (zero)	Kan	Yax	Eb	Ahau	Other, doubtful, pseudo- glyph
Dresden 74.....	1(?)			1		
Paris 21.....						2
32. Jonuta.....						5
34. Palenque, House E.....			1			1
35. Palenque, Cross.....	2					
36. Palenque, Sun.....	1(?)					
Palenque, House D, Pier c*.....	*1	*1				
41. Piedras Negras, Stela 11.....	2		1(?)			
42. Piedras Negras, Stela 14.....					1	
45. Quirigua, Stela H.....	4	3				
46. Quirigua, Zoomorph P.....		2			1(?)	
49. Tikal, Temple IV, Lintel 3*.....			*1			
50. Yaxchilan, Stela 1.....		1	2			2
51. Yaxchilan, Stela 3.....		3	2			
52. Yaxchilan, Stela 4.....		1	1			
53. Yaxchilan, Stela 6.....		2	1			
54. Yaxchilan, Stela 7.....		1	1			
62. Quintana Roo.....		1				1
63. Salvador.....						2
65. Ulua Valley.....						2

\*Indicates inferred symbolism; glyphs not in representations of water.

TABLE 6.—Comparative summary of the water associations

Culture	Direct water associations										Water producers										Configurations									
	Water from con- tainer	Water from mouth	Water from eye	Water from breast	Water from be- tween legs	Water from body (pores?)	Water from hand	Water from other object in hand	Waterlike design from head	Glyph in water	Object in water	Tlaloc, Tlaloc var- iant	Anthropomorphic Long-nosed God	Female water deity	Black God (M, B)	Miscellaneous an- thropomorphic	Frog	Serpent	Jaguar	Bird	Miscellaneous an- imal	Serpentine-saurian monster	Detached rear head of monster	Other grotesque head, face	Death, misfortune, destruction	Water descending on surface water	Water descending on figure	The bending-over rainsmaker	Sky monster and its affiliates	Balanced water and vegetation
Post-Conquest Mesoamerica 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Maya codices and late Yucatán	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mexican codices and Aztec	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Teotihuacan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Non-Maya	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Classic Maya	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

<sup>1</sup>Indicates inferred presence.

<sup>2</sup>Ethnohistorical data from Appendix A; epigraphic evidence omitted.

## APPENDIX D

## NOTES ON FIGURE 16

Figure 16 is an attempt to portray visually the interrelationships of most of the identifications of water in Maya art. Although the arbitrary limitations imposed by spatial considerations and two-dimensional representation have influenced the specific form which the chart takes, they have not been permitted to distort the reality of the associations which are reflected. Broadly speaking, the better identified representations appear toward the top and the more uncertain water portrayals toward the bottom of the chart. More specifically, it is possible to regard the representations as divided into four horizontal groupings, expressed by the numerals I to IV. The first, appearing along the top of the chart, are established portrayals of water, either in the Maya or Mexican codices or at Teotihuacán. The representations of the second level show specific correspondences both to the first and third, thereby establishing connections between them. Representations may be placed on the third level as a result of this partial dependence upon the second, but they are likewise assigned to it if they do not fit the specifications of the other levels. The fourth level should be set apart from the others somewhat more sharply than spatial considerations permit. It is comprised of representations showing objects whose nature as paraphernalia or ornament is pronounced, plus a number of occurrences of the fang-tongue-water (?) motif. In general, then, levels I to III represent the "nucleus" and level IV the "fringe" discussed in Appendix B. While the examples in level I are of course the best identified of the nuclear portrayals shown in the chart, it does not necessarily follow that all representations in level II are more certainly water than any in level III. Nevertheless, where possible, the attempt has been made to keep the more probable representations relatively close to the top, assigning the less securely identified designs to lower positions.

On the basis of their apparent conceptual relationships, i. e., of the specific complexes in which the supposed streams of water appear, closely knit subgroups are shown passing vertically through the various levels. Interconnections of a conceptual sort between these subcomplexes are shown by other lines, usually diagonal although more rarely horizontal. The nature of these relationships cannot well be expressed by the chart; cross reference to the text is necessary.

Artistic connections are expressed in two different ways. The type of the representation—columnar stream, divided stream, or fang-tongue-water (?) motif—is shown, respectively, by the use of solid, broken, and dotted lines to box in an entry. Representations not fitting any of these categories are indicated by a still different con-

vention (see key to fig. 16 for the appropriate symbols). In addition, certain specific artistic resemblances are indicated by dashed lines which pass down from the first level. This device is used only sparingly, but the connections which it indicates are of great significance.

The occurrence of any of the glyphs that comprise the yax-kan-completion (zero) complex is indicated by the use of double outlines around the appropriate entry.

Not all of the representations which have been tabulated or discussed are included in figure 16, although the absences are infrequent. The most important single omission would seem to be from Finca Encanto (Entry 31, fig. 20, *d*). The failure of this representation to appear reflects its apparent lack of important conceptual ties. Nevertheless, the close artistic resemblances with figures 20, *c*, *e*, make it highly regarded as a portrayal of water. Certain Piedras Negras representations which would seem to be of considerably less importance are also missing from the chart (Entries 38, 39).

Tlalocs at Copán and Yaxchilan, appearing in the lower left-hand corner of figure 16, are not shown to have direct connections with representations on level I. Nevertheless, space permitting, representations which seemingly depict water from the mouths of Tlalocs at Teotihuacán could have been introduced as a precedent in level I and connected to them.

The somewhat distinct nature of the complexes involving container and jaguar, as set apart from the other representations, is not only recognized in figure 16 but actually receives undue emphasis. To be sure, resemblances of Zoomorph P to Stelae 6 and 7, Yaxchilan, and 11, Piedras Negras, are indicated (divided streams and the same glyph complex). In addition, however, the specific resemblance of a water pourer on Zoomorph P to a water spitter on Stela C at the same site warrants attention (figs. 20, *b*, 22, *b*). This is just one of a large number of reinforcing links which, unfortunately, had to be omitted from the chart.

The prominent position of the sky monster at Palenque and Piedras Negras is, at any rate, well shown. It is the rear head of the monster which takes on special significance in the subcomplex dominated by portrayals in the Temple of the Cross, Palenque. On the other hand, it is the "Serpent bird," characteristically perched at the middle of the monster's serpentine body, which receives special elaboration in Entry 62, from Quintana Roo. And in both cases, supporting evidence from additional sources is particularly impressive.

The method of identifying the representations symbolized by each of the small boxes varies somewhat. If the portrayal occurs on a stela or zoomorph, the number or letter of that monument is given. "L" may be introduced to show a lintel. In other cases, where

parentheses occur, the entry number replaces that of the monument. Names of structures are not given, except in the case of the Temple of the Cross at Palenque, where the name is short and the portrayals are of such key importance as to warrant this somewhat differential treatment.

The following abbreviations are used to refer to the site or provenience of specimens:

Bon.	(Bonampak).	Pal.	(Palenque).
Borg.	(Borgian Codex).	P. N.	(Piedras Negras).
Chal.	(Chalchupa zone, El Salvador).	Q. Roo	(Quintana Roo).
Dres.	(Dresden Codex).	Quir.	(Quirigua).
Jon.	(Jonuta).	Salv.	(Nexapa, El Salvador).
Liv.	(Livingstone, Guatemala).	Teot.	(Teotihuacán).
Mad.	(Madrid Codex).	Uax.	(Uaxactun).
		Yall.	(Yalloch).
		Yax.	(Yaxchilan).

Figure 16 makes no implications whatsoever about the historical development of the various motifs.

#### LITERATURE CITED

- ALLEN, G. M. See TOZZER, A. M., and ALLEN, G. M.
- ANDERSON, J. O., and DIBBLE, C. E., EDITORS.  
1950-52. Florentine Codex, general history of the things of New Spain, Fray Bernardino de Sahagun. School Amer. Res. Monographs, No. 14, pt. 2-4. Santa Fe.
- ANONYMOUS.  
1946. Arte prehispánico de México. Inst. Nac. Antrop. e Hist. México.  
1947. Indigenous art of the Americas. Collection of Robert Woods Bliss. National Gallery of Art. Washington.
- ARMILLAS, PEDRO.  
1945. Los dioses de Teotihuacán. Univ. Nac. Cuyo, Anal. Inst. Etnol. Amer., vol. 6, pp. 35-61. Mendoza.  
1947. La serpiente emplumada: Quetzalcoatl y Tlaloc. Cuadernos Americanos; año 6, pp. 161-178. México.  
1950. Teotihuacán, Tula y los Toltecas. Univ. Buenos Aires Inst. Antrop., Runa, vol. 3, pp. 37-70.
- BEALS, RALPH L.  
1945. Ethnology of the Western Mixe. Univ. California Publ. Amer. Archaeol. and Ethnol., vol. 42, No. 1.
- BLOM, FRANS.  
1924. Notes from the Maya area. Amer. Anthrop., n. s., vol. 26, No. 3, pp. 403-413.  
1950. A polychrome Maya plate from Quintana Roo. Carnegie Inst. Washington, Div. Hist. Res., Notes on Middle Amer. Archaeol. and Ethnol., No. 98, pp. 81-84.
- BLOM, F., and LA FARGE, O.  
1926-27. Tribes and temples. Tulane Univ. Middle Amer. Res. Ser., vol. 1, pts. 1, 2.

CASO, ALFONSO.

1928. *Las estelas Zapotecas*. México.  
 1938. *Exploraciones en Oaxaca; quinta y sexta temporadas, 1936-37 . . .*  
*Inst. Panamericano de Geog. e Hist., Publ. 34. Tacubaya, D. F.,*  
 México.  
 1942. *El paraíso terrenal en Teotihuacán. Cuadernos Americanos, año 1,*  
 pp. 127-136. México.

CODEX BARANDA.

1892. *Antigüedades Mexicanas: publicadas por la Junta Colombina de*  
 Mexico. Oficina Tipog. de la Secretaría de Fomento. México.

CODEX BORGIAN.

1898. *Il manoscrito Messicano Borgiano*. Rome.

CODEX COLOMBINO (DORENBURG).

1892. *Antigüedades Mexicanas; publicadas por la Junta Colombina de*  
 Mexico. Oficina Tipog. de la Secretaría de Fomento. México.

CODEX DEHESA.

1892. *Antigüedades Mexicanas; publicadas por la Junta Colombino de*  
 Mexico. Oficina Tipog. de la Secretaría de Fomento. México.

CODEX DRESDEN.

1880. *Die Mayahandschrift der Königlichen öffentlichen bibliothek zu*  
 Dresden, herausgegeben von prof. dr. E. Förstemann. Leipzig.

CODEX FEJERVARY-MAYER.

1901. *Codex Fejervary-Mayer: manuscrit Mexicain pre-colombien*. Paris.

CODEX FLORENTINE. See ANDERSON, J. O., and DIBBLE, C. E., EDITORS.

CODEX HAMBURG.

1926. *Codex Hammaburgensis, eine neuentdeckte altmexikanische Bilder-*  
*handschrift des Hamburgischen Museums für Volkerkunde. (Dr.*  
*Theodor-Wilhelm Danzel, Ed.) Selbstverlag des Hamburgischen*  
*Museums für Volkerkunde. Hamburg.*

CODEX LAUD.

1937. *Codice Laud. Libreria Anticuaria. México.*

CODEX MADRID (TRO-CORTESIANUS).

1933. *The Madrid Maya codex. Maya Soc. Publ. 21. Baltimore.*

CODEX MAGLIAECCHIANO, XIII-3.

1904. *Manuscrit Mexicain post-colombien de la Bibliotheque Nationale de*  
 Florence. Reproduit au Frais du Duc de Loubat. Rome.

CODEX NUTTALL (ZOUCHE).

1902. *Codex Nuttall. Harvard Univ. Peabody Mus. Amer. Archaeol. and*  
 Ethnol.

CODEX PARIS (PERESIANUS) (PEREZ).

1909. *Codex Perez, Maya-Tzental. Point Loma.*

CODEX RIOS (VATICANUS A) (VATICANUS 3738).

1900. *Il manoscritto Messicano Vaticano 3738. Rome.*

CODEX SELDEN.

1946. *Pictografía antigua Mexicana procedente de la Mixteca, actualmente*  
*en la Biblioteca Bodleiana de Oxford, Inglaterra. Libreria An-*  
*ticuaria. México.*

CODEX VIENNA.

1929. *Codex Vindobonensis Mexic. 1. Vienna.*

CORDRY, D. B., and CORDRY, D. M.

1941. *Costumes and weaving of the Zoque Indians of Chiapas, Mexico.*  
 Southwest Mus. Papers, No. 15. Pasadena.

CORDY, N.

1946. Examples of phonetic construction in Maya hieroglyphs. *Amer. Antiq.*, vol. 12, No. 2, pp. 108-117.

COVARRUBIAS, MIGUEL.

1942. Origen y desarrollo del estilo artistico "Olmeca." *Mayas y Olmecas*, Soc. Mexicana de Anthropol., pp. 46-49. Tuxtla Gutierrez.

1946. El arte "Olmeca" o de La Venta. *Cuadernos Americanos*. año 5, pp. 153-179. México.

1947. Mexico south: the Isthmus of Tehuantepec. New York.

DE BORHEGYI, STEPHEN F.

- 1950 a. Tlaloc effigy jar from the Guatemala National Museum. *Carnegie Inst. Washington, Div. Hist. Res., Notes on Middle Amer. Archaeol. and Ethnol.*, No. 96, pp. 55-59.

- 1950 b. Rim-head vessels and cone-shaped effigy prongs of the pre-Classic period at Kaminaljuyu, Guatemala. *Carnegie Inst. Washington, Div. Hist. Res. Notes on Middle Amer. Archaeol. and Ethnol.*, No. 97, pp. 60-80.

DIBBLE, C. E. See ANDERSON, J. O., and DIBBLE, C. E., EDITORS.

DIESELDORFF, ERWIN P.

- 1926-33. *Kunst und religion der Mayavölker*. Vols. 1, 2, Berlin; vol. 3, Hamburg.

EKHOLM, GORDON F.

1950. Is American Indian culture Asiatic? *Nat. Hist.*, vol. 59, No. 8, pp. 344-351, 382.

1953. A possible focus of Asiatic influence in the Late Classic cultures of Mesoamerica. *In Asia and North America: trans-Pacific contacts*. Soc. Amer. Archaeol., Mem. No. 9, pp. 72-89.

See also HEINE-GELDERN, R., and EKHOLM, G. F.

FÖRSTEMANN, ERNST.

1906. Commentary on the Maya manuscript in the Royal Public Library of Dresden. *Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Pap.*, vol. 4, No. 2.

FOSTER, GEORGE M.

1945. Sierra Popoluca folklore and beliefs. *Univ. California Publ. Amer. Archaeol. and Ethnol.*, vol. 42, No. 2.

FRAZER, JAMES G.

1935. *The Golden Bough: a study in magic and religion*. 12 vols., 3d ed. New York.

FUENTE, JULIO DE LA.

1947. Las ceremonias de la lluvia entre los zapotecos de hoy. 27th Int. Cong. Amer. México, 1939, Proc., 1st ses., vol. 2, pp. 479-484.

GARCÍA PAYÓN, JOSÉ.

1939. El simbolo del año en el Mexico antiguo. *El Mexico Antiguo*, t. 4, pp. 241-252. México.

GATES, WILLIAM.

1931. An outline dictionary of Maya glyphs; with a concordance and analysis of their relationships. *Maya Soc. Publ.* 1, No. 1.

GORDON, GEORGE B.

1902. The Hieroglyphic Stairway, ruins of Copan. *Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Mem.*, vol. 1, No. 6.

1905. The serpent motive in the ancient art of Central America and Mexico. *Trans. Univ. Pennsylvania Dept. Archaeol.*, vol. 1, pt. 3.

GORDON, G. B., and MASON, J. A.

1925-43. Examples of Maya pottery in the Museum and other collections.  
3 pts. University Museum, Philadelphia.

HAY, C. L., LINTON, R. L., LOTHROP, S. K., SHAPIRO, H. L., and VAILLANT, G. C., EDITORS.

1940. *The Maya and their neighbors.* New York.

HEINE-GELDERN, R., and EKHOLM, G. F.

1951. Significant parallels in the symbolic arts of southern Asia and Middle America. *In* *The civilizations of ancient America; selected papers*, 29th Int. Congr. Amer., pp. 299-309. Chicago.

JOYCE, THOMAS A.

1913. *The weeping god. Essays and studies presented to William Ridgeway* (E. C. Quiggin, Ed.), pp. 365-374. Cambridge.

KIDDER, ALFRED, II. *See* STRONG, W. D., KIDDER, ALFRED, II and PAUL, A. J. D., JR.

KIDDER, A. V., JENNINGS, J. D., and SHOOK, E. M.

1946. *Excavations at Kaminaljuyu, Guatemala.* Carnegie Inst. Washington Publ. No. 561.

KINGSBOROUGH, EDWARD KING.

1830-48. *Antiquities of Mexico.* 9 vols. London.

LA FARGE, O. *See* BLOM F.

LANDA, DIEGO DE. *See* TOZZER, ALFRED M.

LINNÉ, SIGVALD.

1934. *Archaeological researches at Teotihuacan, Mexico.* Ethnog. Mus. of Sweden, n. s., Publ. 1. Stockholm.

1942. *Mexican highland cultures: archaeological researches at Teotihuacan, Calpulalpan and Chalchicomula in 1934/35.* Ethnog. Mus. of Sweden, n. s., Publ. 7. Stockholm.

LINTON, R. L. *See* HAY, C. L., ET AL.

LIZANA, BERNARDO DE.

1893. *Historia de Yucatán. Devocionario de Ntra. Sra. de Izamal y conquista espiritual.* México.

LOTHROP, SAMUEL K.

1924. *Tulum: an archaeological study of the east coast of Yucatan.* Carnegie Inst. Washington Publ. No. 335.

*See also* HAY, C. L., ET AL.

LUMHOLTZ, CARL.

1902. *Unknown Mexico.* 2 vols. New York.

MACCURDY, GEORGE G.

1910. An Aztec "Calendar Stone" in Yale University Museum. *Amer. Anthropol.*, n. s., vol. 12, No. 4, pp. 481-496.

MALER, TEOBERT.

1901. *Researches in the central portion of the Usumatsintla Valley.* Harvard Univ., Peabody Mus. *Amer. Archaeol. and Ethnol.*, Mem., vol. 2, No. 2.

1903. *Researches in the central portion of the Usumatsintla Valley.* Harvard Univ., Peabody Mus. *Amer. Archaeol. and Ethnol.*, Mem., vol. 2, No. 2.

1908. *Explorations of the upper Usumatsintla and adjacent region: Altar de Sacrificios; Seibal; Itsimté-Sacluk; Cankuen.* Harvard Univ., Peabody Mus. *Amer. Archaeol. and Ethnol.*, Mem., vol. 4, No. 1.

1911. *Explorations in the Department of Peten, Guatemala. Tikal.* Harvard Univ., Peabody Mus. *Amer. Archaeol. and Ethnol.*, Mem., vol. 5, No. 1.

MARQUINA, IGNACIO.

1951. *Arquitectura prehispánica*. Mem. Inst. Nac. Antrop. e Hist. México.

MASON, J. A. *See* GORDON, G. B.

MAUDSLAY, ALFRED P.

1889-1902. *Archaeology*. *Biologia Centrali-Americana*. 5 vols. London.

MEYER, ENRIQUE.

1939. *Noticia sobre los petroglifos de Tula, Hgo.* *Revista Mexicana de Estud. Antrop.*, t. 3, pp. 122-128. México.

MORAN, FRANCISCO.

1935. *Arte y diccionario en lengua cholti*. Maya Soc. Publ. 9. Baltimore.

MORLEY, SYLVANUS G.

1915. *An introduction to the study of the Maya hieroglyphs*. *Bur. Amer. Ethnol. Bull.* 57.

1937-38. *The inscriptions of Peten*. Carnegie Inst. Washington Publ. No. 437. 5 vols.

MOTUL DICTIONARY.

1929. *Diccionario de Motul, maya-español, atribuido a Fray Antonio de Ciudad Rear y Arte de lengua maya por Fray Juna Coronel*. (J. Martínez Hernández, Ed.) Mérida.

NEYS, H., and WINNING, H. VON

1946. *The treble scroll symbol in the Teotihuacan and Zapotec cultures*. Carnegie Inst. Washington, Div. Hist. Res., Notes on Middle Amer. Archaeol. and Ethnol., No. 74, pp. 82-89.

NUTTALL, ZELIA. *See* Codex Nuttall, 1902.

PACHECO CRUZ, SANTIAGO.

1939. *Léxico de la fauna yucateca*. Mérida.

PARSONS, ELSIE C.

1936. *Mitla, town of souls*. Chicago.

PAUL, A. J. D., JR. *See* STRONG, W. D., KIDDER, ALFRED, II, and PAUL, A. J. D., JR.

PEÑAFIEL, ANTONIO.

1885. *Nombres geográficos de México*. Oficina Tipog. de la Secretaría de Fomento. México.

1900. *Teotihuacán. Estudio histórico y arqueológico*. Oficina Tipog. de la Secretaría de Fomento. México.

PHILLIPS, HENRY.

1884. *Notes upon the Codex Ramirez, with a translation of the same*. Proc. Amer. Philos. Soc., vol. 21, No. 116, pp. 616-651. Philadelphia.

Pfo PÉREZ, JUAN.

1866-77. *Diccionario de la lengua maya*. Mérida.

PROSKOURIAKOFF, TATIANA.

1950. *A study of Classic Maya sculpture*. Carnegie Inst. Washington Publ. No. 593.

RANDS, ROBERT L.

1953. *The water lily in Maya art: a complex of alleged Asiatic origin*. *Bur. Amer. Ethnol. Bull.* 151, *Anthrop. Pap.* No. 34.

REDFIELD, ROBERT.

1946. *Notes on San Antonio Palopé*. Microfilm Coll. MSS. on Middle Amer. Cultural Anthrop., No. 4. Chicago.

REDFIELD, R., and VILLA, A.

1934. *Chan Kom, a Maya village*. Carnegie Inst. Washington Publ. No. 448.

RICHARDSON, F. B. See THOMPSON, J. E. S.

ROYS, RALPH L.

1933. *The Book of Chilam Balam of Chumayel*. Carnegie Inst. Washington Publ. No. 438.

SAHAGUN, BERNARDINO DE.

1932. *A history of ancient Mexico*. Bks. 1-4. (F. R. Bandelier, Ed.) Nashville.

See also ANDERSON and DIBBLE.

SAPPER, KARL.

1897. *Das nördliche Mittel-Amerika nebst einen Ausflug nach dem Hochland von Anahuac*. Reisen und Studien aus den Jahren 1888-1895. Braunschweig.

SCHELLHAS, PAUL.

1904. Representations of deities of the Maya manuscripts. Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Pap., vol. 4, No. 1.

SELER, EDUARD.

1901. *The Tonalamatl of the Aubin Collection*. Commentary. (Transl. by A. H. Keane.) London.

1901-2. *Codex Fejérváry-Mayer*. Commentary. (Transl. by A. H. Keane.) London.

1902-23. *Gesammelte Abhandlungen zur amerikanischen Sprach- und Alterthumskunde*. 5 vols. Berlin.

1904. *Unity of Mexican and Central American civilization*. Bur. Amer. Ethnol. Bull. 28, pp. 266-274.

1913. Similarity of design of some Teotihuacan frescoes and certain Mexican pottery objects. Proc. 18th Int. Congr. Amer., London, 1912, pt. 1. London.

See also THOMPSON, J. E. S., and RICHARDSON, F. B., EDITORS.

SHAPIRO, H. L. See HAY, C. L., ET AL.

SMITH, A. LEYARD.

1932. *Two recent ceramic finds at Uaxactun*. Carnegie Inst. Washington Contr. Amer. Archaeol., vol. 2, No. 5, Publ. No. 436.

SPINDEN, HERBERT J.

1913. *A study of Maya art, its subject matter and historical development*. Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Mem., vol. 6.

1917. Recent progress in the study of Maya art. Proc. 19th Int. Congr. Amer., Washington, 1915, pp. 165-177. Washington.

1924. *The reduction of Mayan dates*. Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol. Pap., vol. 6, No. 4.

1928 a. *Ancient civilizations of Mexico and Central America*. Amer. Mus. Nat. Hist. Handbook Ser., No. 3. 3d ed.

1928 b. *Maya inscriptions dealing with Venus and the moon*. Bull. Buffalo Soc. Nat. Sciences, vol. 14, No. 1.

1940 a. *Diffusion of Maya astronomy*. In *the Maya and their neighbors* (Hay et al., editors), pp. 162-178. New York.

1940 b. *Sun worship*. Ann. Rep. Smithsonian Inst. for 1939, pp. 447-470.

## STARR, FREDERICK.

1901. Notes upon the ethnography of Southern Mexico. Proc. Davenport Acad. Nat. Sci., vol. 8.

## STIRLING, MATTHEW W.

1940. An Initial Series from Tres Zapotes, Vera Cruz, Mexico. Nat. Geogr. Soc. Contr. Tech. Pap., Mexican Archaeol. Ser., vol. 1, No. 1.
1943. Stone monuments of Southern Mexico. Bur. Amer. Ethnol. Bull. 138.
1954. Stone monuments of the Rio Chiquito, Veracruz, Mexico. Bur. Amer. Ethnol. Bull. 157, Anthrop. Pap. No. 43.

## STROMSVIK, GUSTAV.

1947. Guide book to the ruins of Copan. Carnegie Inst. Washington Publ. No. 577.

## STRONG, W. D., KIDDER, ALFRED, II, AND PAUL, A. J. D., JR.

1938. Preliminary report on the Smithsonian Institution-Harvard University archeological expedition to northwestern Honduras, 1936. Smithsonian Misc. Coll., vol. 97, No. 1.

## TAYLOR, WALTER W.

1948. A study of archeology. Amer. Anthrop. Assoc. Mem., No. 69.

## THOMPSON, J. ERIC S.

1930. Ethnology of the Mayas of southern and central British Honduras. Field Mus. Nat. Hist. Anthrop. Ser., vol. 17, No. 2, Publ. 274.
1939. The Moon Goddess in Middle America: with notes on related deities. Carnegie Inst. Washington, Contr. Amer. Anthrop. and Hist., vol. 5, No. 29, Publ. 509.
1941. Dating of certain inscriptions of non-Maya origin. Carnegie Inst. Washington, Div. Hist. Res., Theoretical approaches to problems, No. 1.
1950. Maya hieroglyphic writing: introduction. Carnegie Inst. Washington Publ. 589.
1951. Aquatic symbols common to various centers of the Classic period in Meso-America. In *The civilizations of ancient America*; selected papers, 29th Int. Congr. Amer., pp. 31-36. Chicago.

## THOMPSON, J. E. S., and RICHARDSON, F. B., EDITORS.

1939. Collected works of Eduard Seler: Translation of *Gesammelte Abhandlungen zur amerikanischen Sprach und Alterthumskunde*. 4 vols. Cambridge.

## TOZZER, ALFRED M.

1907. A comparative study of the Mayas and the Lacandones. New York.
1913. A Spanish manuscript letter on the Lacandones, in the Archives of the Indies at Seville. Proc. 18th Int. Congr. Amer., London, 1912, pt. 2, pp. 497-509. London.
1941. Landa's *Relación de las cosas de Yucatan*. (A translation.) Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Pap., vol. 18.

## TOZZER, A. M., and ALLEN, G. M.

1910. Animal figures in the Maya codices. Harvard Univ., Peabody Mus. Amer. Archaeol. and Ethnol., Pap., vol. 4, No. 3.

## VAILLANT, GEORGE C.

1928. The native art of Middle America. Nat. Hist., vol. 28, No. 6, pp. 562-576.

See also HAY, C. L., ET AL.

VILLA ROJAS, ALFONSO.

1945. The Maya of east central Quintana Roo. Carnegie Inst. Washington Publ. No. 559.

*See also* REDFIELD, R., and VILLA, A.

VILLAGRA CALETI, AGUSTÍN.

1949. Bonampak; la ciudad de los muros pintados. Anal. Inst. Nac. Antrop. e Hist., Sup. al t. 3. México.

1951. Las pinturas de Atetelco en Teotihuacán. Cuadernos Americanos, año 10, pp. 153-162. México.

WINNING, HASSO VON.

1947 a. A symbol for dripping water in the Teotihuacan culture. El Mexico Antiguo, t. 6, pp. 333-341. México.

1947 b. Representations of temple buildings as decorative patterns on Teotihuacan pottery and figurines. Carnegie Inst. Washington, Div. Hist. Res., Notes on Middle Amer. Archaeol. and Ethnol., No. 83, pp. 170-177.

1948. The Teotihuacan owl-and-weapon symbol and its association with "Serpent Head X" at Kaminaljuyu. Amer. Antiq., vol. 14, No. 2, pp. 129-132.

*See also* NEYS H., and WINNING, H. VON.

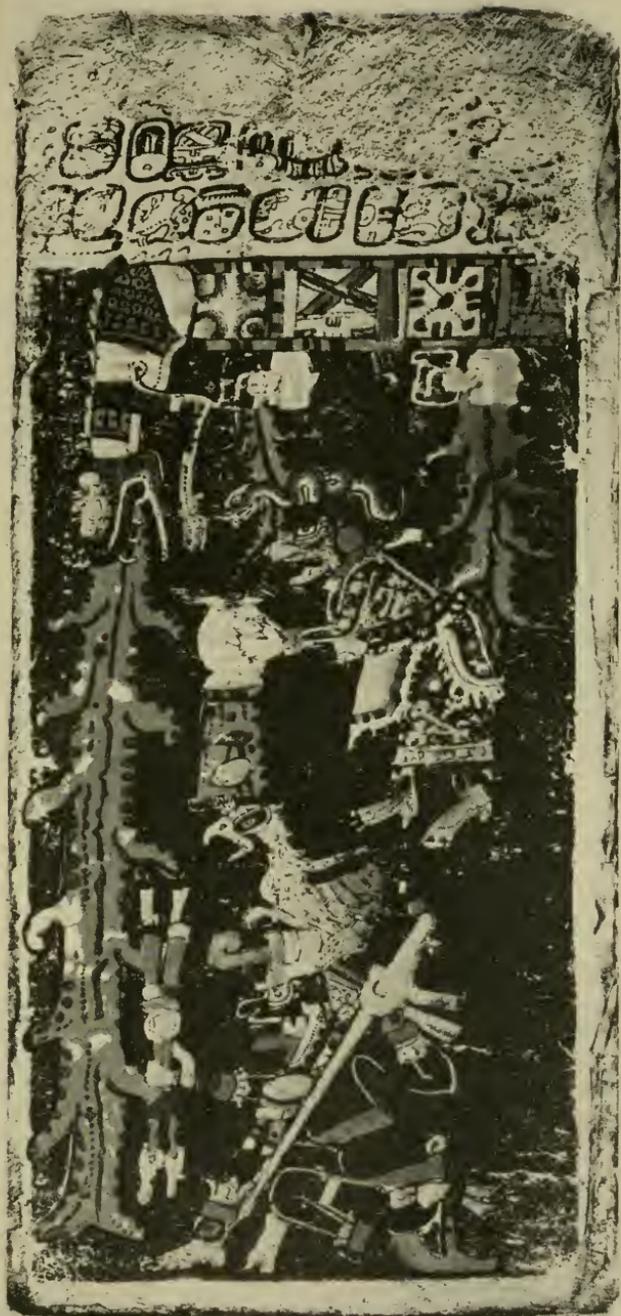
WISDOM, CHARLES.

1940. The Chorti Indians of Guatemala. Univ. Chicago Publ. in Anthrop., Ethnol. Ser.

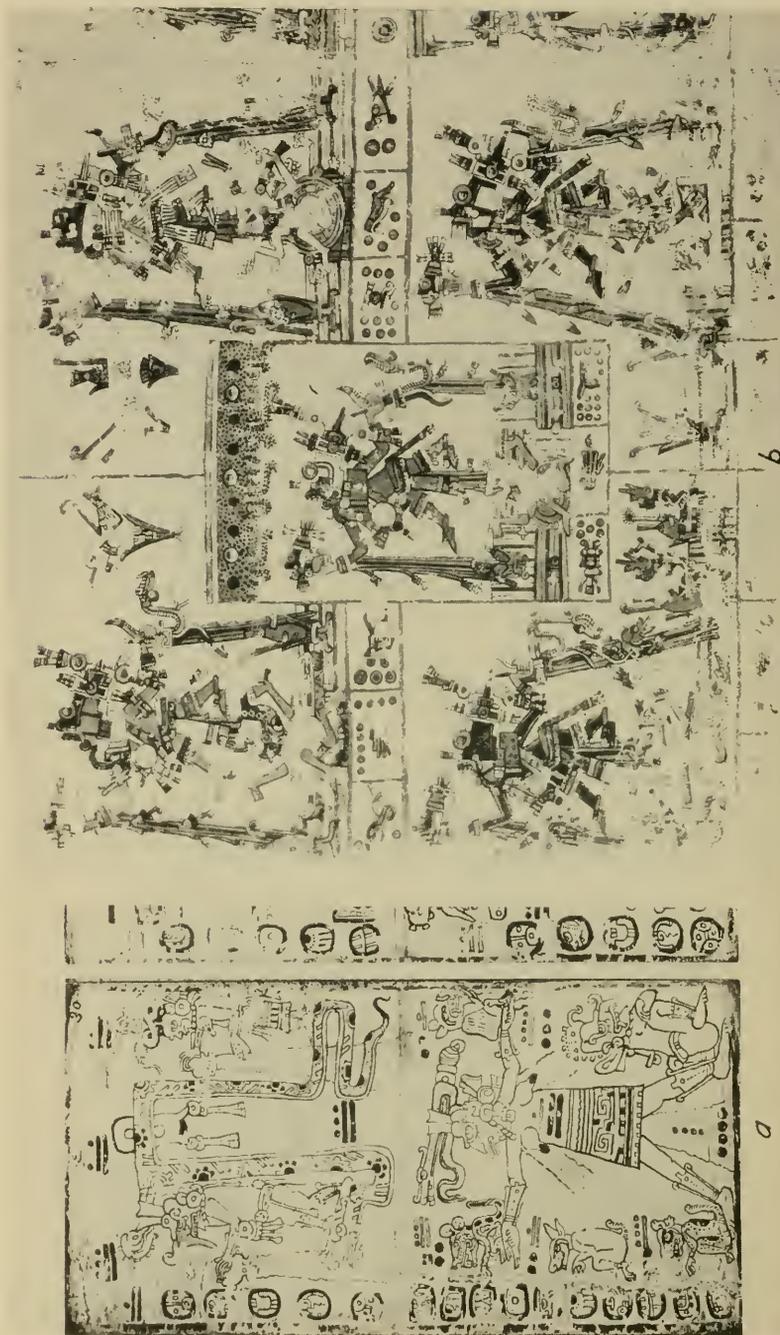
ZINGG, ROBERT M.

1937. The Huichols, primitive artists. Denver Univ. Contr. Ethnog., No. 1.





Dresden Codex, page 74.

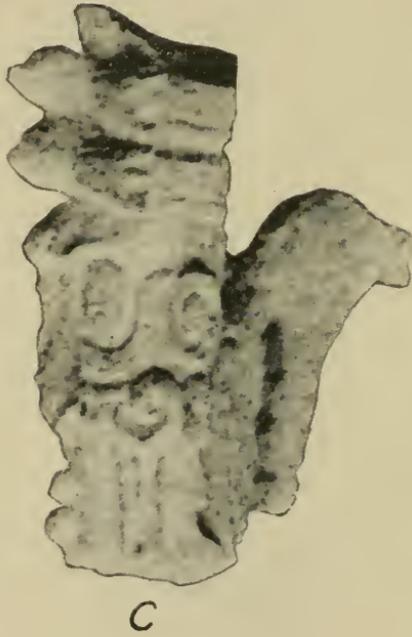


a, Madrid Codex, page 30. b, Borgian Codex, page 28.





*a*, Izapa, Stela 1 (Entry 16). *b*, Yaxchilan, Lintel 25 (Entry 55).



*a*, Quintana Roo (Entry 62). *b, c*, Copán, Temple 22 (Entry 29). *d, e*, Copán, Temple 26 (Entry 30).