

A Representation of the Principal Bird Deity in the Paris Codex

KARL A. TAUBE
Dumbarton Oaks

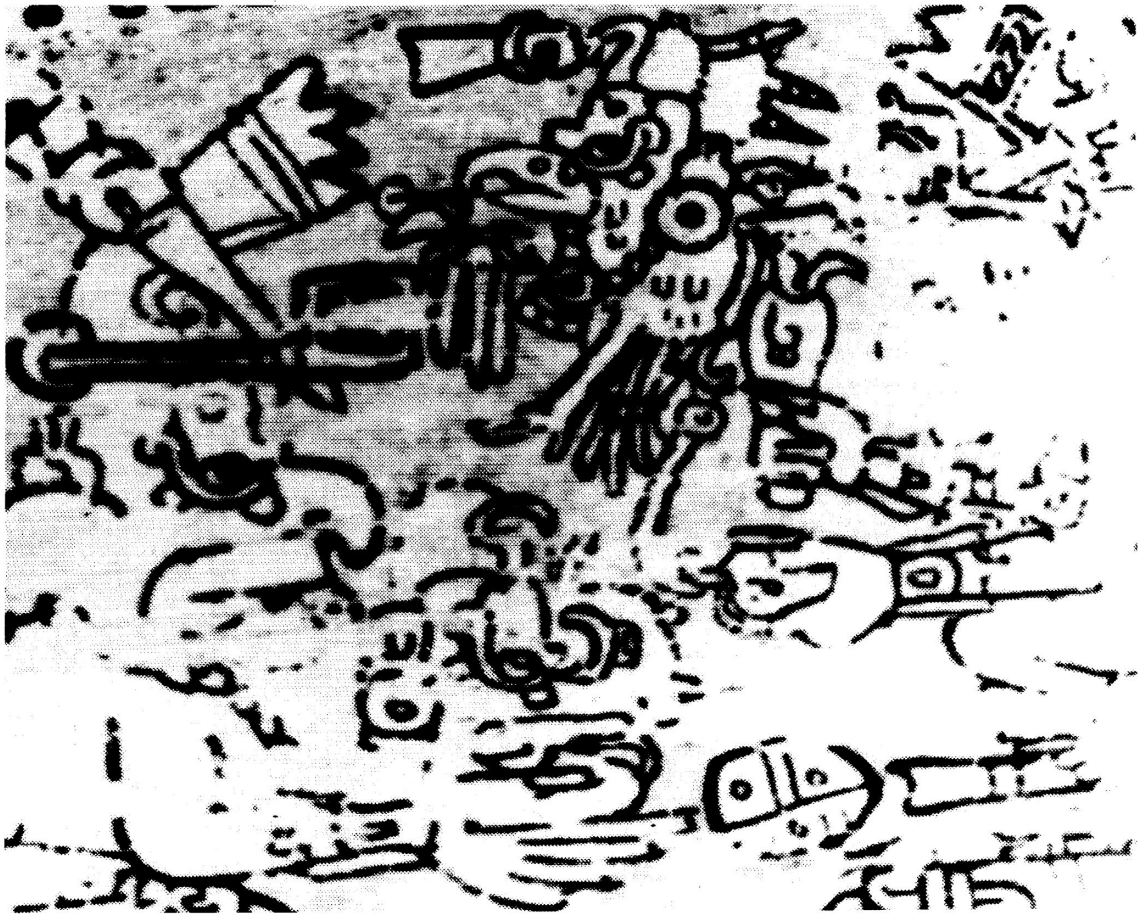
FOR MANY YEARS it has been known that the central portions of pages 2 through 12 of the Codex Peresianus, or Paris Codex, deal with a succession of *katuns* (Förstemann 1903; Gates 1910). According to Gates (1910:16-17), the katun series began on the almost entirely effaced page 1 and ended on the missing page 13 (Note 1). If that is correct, these pages embrace a complete round of 13 katuns, beginning with Katun 4 Ahau and concluding with Katun 6 Ahau (Note 2). Each of the extant scenes on pages 2 through 12 shows a standing deity presenting a God K head to another figure, seated on a dais or throne. The presentation of the God K head may allude to a change in political or religious authority since, in Classic Period iconography, the presentation of God K frequently occurs during scenes of accession and other dynastic rites (Schele 1982:61-63; Schele & J. Miller 1983:17-18). Hellmuth (1986: Fig. 192) has pointed out the close similarity of the "katun thrones" of the Paris Codex to the Classic "niche," or accession, stelae of Piedras Negras. In addition, the texts of the katun pages of the Paris Codex begin with a series of *hel* compounds (T168:573.130). The main sign, the *hel* glyph itself, is frequently used in Classic texts to denote the succession of rulers at a particular site (Riese 1984). Lounsbury (1973) has established that the accompanying affixes, T168 and T130, are to be read AHAW — an important title of Maya lords. It is clear, then, that in the Paris scenes, the succession of katuns is portrayed as the installation or accession of an incumbent into high office.

On pages 2 through 11, a bird is shown between the two figures of each scene. There is, however, considerable variety in the type of bird portrayed: On page 3, that affiliated with Katun 13 Ahau is clearly a hummingbird, whereas in the Katun 1 Ahau scene of page 9, it is a heron or some other long-necked aquatic fowl. However, it is by no means certain that all of the birds are different. The long-eared "*moan* owl" appears on pages 5, 10, and possibly 2 (Note 3). Moreover, the birds on pages 4 and 8 are provided with almost identical anthropomorphic heads, probably of God D or God G, as defined by Schellhas (1904). The bird portrayed on page 11, however, appears only once in the intact part of the Paris Codex sequence. It is the purpose of this study to show that this portrayal (Fig. 1) is the first recognized example of a Late Postclassic Period representation of the Principal Bird Deity, one of the major figures of the Maya pantheon in Late Preclassic and Classic times (Note 4).

THE PRINCIPAL BIRD DEITY

In an important pioneering study, Lawrence Bardawil (1976) coined the term "Principal Bird Deity." According to that investigation, the primary visual attributes which define this

FIGURE 1. THE PRINCIPAL BIRD DEITY ON PAGE 11 OF THE PARIS CODEX

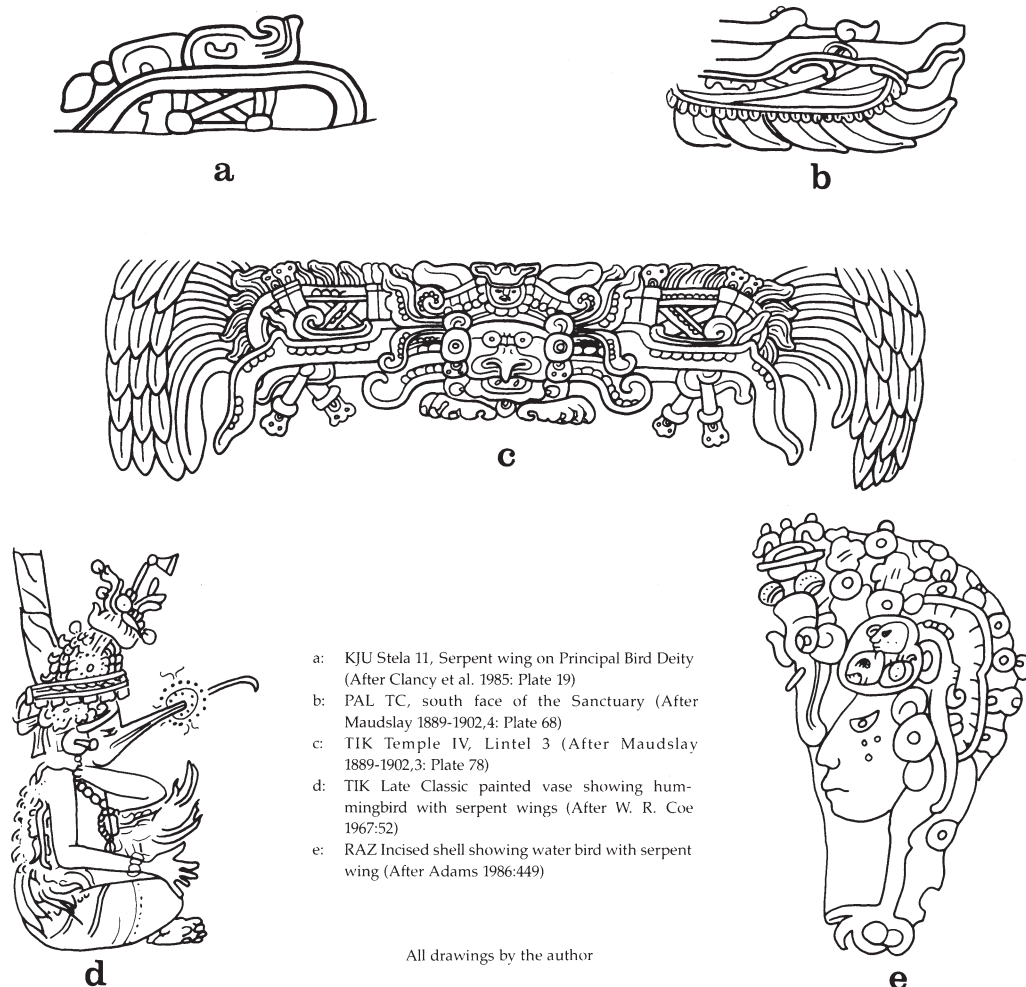


Photographic enlargement from the 1864 Commission Scientifique du Mexique edition of the Paris Codex (courtesy of Mary Kay Davies, Librarian, Department of Anthropology Library, Smithsonian Institution, Washington, D. C.)

(Approximately three times actual size)

supernatural creature are the “long-lip” face and a particular type of avian wing having a profile serpent head infixed in the region of the shoulder, which Bardawil termed the “serpent wing” (1976:195,208). Bardawil also noted that these combined characteristics first appear in the Late Preclassic Period, on carved monuments of Izapa, Kaminaljuyú, and other early sites of the Pacific Slope and Guatemala Highlands. Although a striking trait, the Classic Period serpent wing is not limited to the Principal Bird Deity as defined, for it appears with other birds as well, such as the macaw, the long-necked water bird, the moan owl, and the hummingbird (Fig. 2). I suspect that the serpent wing is a phonetic device providing a reading for “sky.” It is well known that the words for “sky” and “serpent” are generally homophonous in Mayan languages, and there are frequent substitutions between their respective signs in Classic Maya hieroglyphic texts (Houston 1984). Thus, whereas the Yucatec word *kan* means “snake,” *ka’an* signifies “sky,” and *ka’anil*, “celestial thing” (Barrera Vásquez 1980:291). The serpent head, then, appears to be placed on the wing to delineate and reaffirm the notion of “sky” — hence the crossbands (another well-known sky symbol) frequently placed under the mouth of the serpent. Thus, rather than defining one particular entity, the serpent wing may simply mark any bird to which it is attached as a “celestial bird.”

FIGURE 2. THE “SERPENT WING” IN LATE PRECLASSIC AND CLASSIC MAYA ICONOGRAPHY



All drawings by the author

Bardawil (1976) notes that the long “upper lip” distinguishes the Principal Bird Deity from the blunt-beaked moan owl. That feature, however, does not represent a fleshy lip, but a bird beak — the same as that found with the personified bloodletter (see Joralemon 1974: Fig. 13), the head variant of the *tun* sign, and the number 13 (Thompson 1950: Figs. 25 & 27). The feature is invariably down-curving, which clearly sets it apart from the upturned snouts and lips of Classic Period renderings of serpents and various saurian creatures. In form, the face of the Principal Bird Deity is identical to that of *El Ave de Pico Ancho* of Late Preclassic and Classic Period Zapotec iconography (Fig. 3). According to Caso and Bernal (1954), the latter is a bird quite possibly modeled on the king vulture. Those authors note the frequent trilobate element on the beak of the Zapotec representations, and suggest that it derives from the unusual caruncle on the beak of the vulture, which becomes erect and three-pronged when the bird is excited (Caso & Bernal 1954: Fig. 354). Although he makes no mention of the Zapotec form, Bardawil (1976:197) notes that at Izapa, the Principal Bird Deity can appear with a triple scroll on the beak. Moreover, Classic Maya examples of this figure also appear with similar beak elements (Kidder, Jennings, & Shook 1946: Fig 204c). The Maya Principal Bird Deity and the Zapotec *Ave de Pico Ancho* are clearly historically related entities.

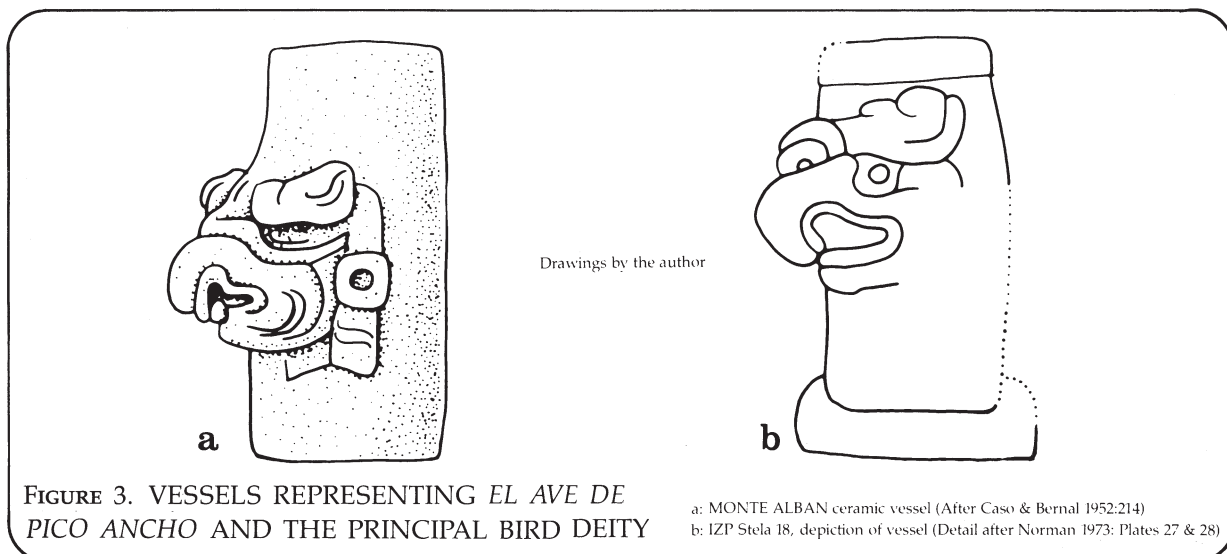
In an unpublished study (Taube 1980), I suggest that the Principal Bird Deity is an antecedent of Vucub Caquix, the great monster bird of the Popol Vuh (see Tedlock 1985:86-94). More recently, Constance Cortez (1986) has independently arrived at a similar conclusion. A number of researchers (Blom 1950; Coe 1978:58,60; Robicsek & Hales 1981:147 & Vessel 109; etc.) have described scenes on Classic Maya vessels which appear to show the episode in which the blowgun hunters, Xbalanque and Hunapu, shoot Vucub Caquix out of his tree. Aside from the vase described by Coe, which clearly portrays a vulture (Fig. 4a), the other painted scenes depict the Principal Bird Deity (Fig. 4b) (Note 5).

It appears that the defeat of Vucub Caquix can be traced back to Late Preclassic Izapa. Both Cortez (1986) and I (1980) have noted that Izapa Stelae 2 and 25 appear to show the battle between Vucub Caquix, portrayed as the Principal Bird Deity, and the Hero Twins (Fig. 4c) (Note 6).

THE PARIS CODEX SCENE

IN THE REPRESENTATION OF KATUN 10 AHAU on page 11 of the Paris Codex, a probable God D holds the head of God K before the presiding deity (Fig. 1). Unfortunately, the features of this second figure are completely missing. His most striking trait is the pair of oval objects which he holds, one in each hand. These objects, which have two out-curving elements on top of each, seem to be some sort of food or offering, as they also appear in a bowl on page 9 of the Paris Codex (Fig. 5a). In the other intact Paris scenes, bowls occupying the same relative position contain *kan*-sign tamales. On two Dresden New Year pages (26b & 27c), the same oval objects are shown in bowls in front of God G and God A (Fig. 5d). Mary Miller (personal communication, 1983) originally suggested to me that the Dresden examples might represent human hearts. Her interpretation is surely correct. One of the gold disks from the Sacred Cenote at Chichén Itzá portrays a scene of heart sacrifice (Fig. 5c). Although somewhat damaged, it can be seen that the human heart has an identical bifurcated element at the top, probably representing the severed blood vessels. The wooden lintel in the Upper Temple of the Jaguars at the same site shows the sun god seated before hearts held in a feather-rimmed bowl, evidently an early form of the Aztec *cuauhxicalli* (Fig. 5b) (Note 7).

In the scene on Paris 11, a stream of some sort, possibly blood, passes from one of the hearts to the hovering bird (Fig. 1). This creature possesses both of the attributes delineated by Bardawil — serpent wings and the long down-curving beak — and may thus be confidently identified as a Late Postclassic form of the Principal Bird Deity. The figure is not just a simple bird, but rather one



arrayed in abundant jewelry, distinguishing it from the other avian-headed birds in the Paris katun pages. In this respect, it matches more closely the anthropomorphized birds on Paris pages 4 and 8, which also possess necklaces and earspool assemblages (Note 8). In addition, the bird on Paris 11 has the same type of eye reserved for Postclassic Maya gods.

In Classic Maya iconography, the Principal Bird Deity is also associated with human sacrifice and accession to high office. I identify Stela 11 (Fig. 6a) and other niche stelae at Piedras Negras as representations of sacrificial scaffolds (Taube, in press). At the bases of Stelae 11 and 14, the victims are shown with their abdomens slashed open (Maler 1901: Plate 20). The Principal Bird Deity is portrayed at the top of both scaffold structures, and it occupies an identical position on the other known accession monuments from the site, including Stelae 6, 25, and 33 (Maler 1901: Plates 15 & 22; Baudez & Bequelin 1985: Plate 56). In his comparison of the Paris Codex katun thrones and the bases of the constructions shown on the Piedras Negras monuments, Hellmuth (1986: Fig. 192) mentions that both the Classic and Postclassic forms feature a “tied crocodile” placed over a sky band seat (Note 9). The bound figures are strikingly similar, but it should be noted that on Piedras Negras Stelae 25 and 33, they are depicted with deer ears. An unprovenanced Classic Period incised bone (Fig. 6b) also depicts the Principal Bird Deity in a prominent role. The bird appears

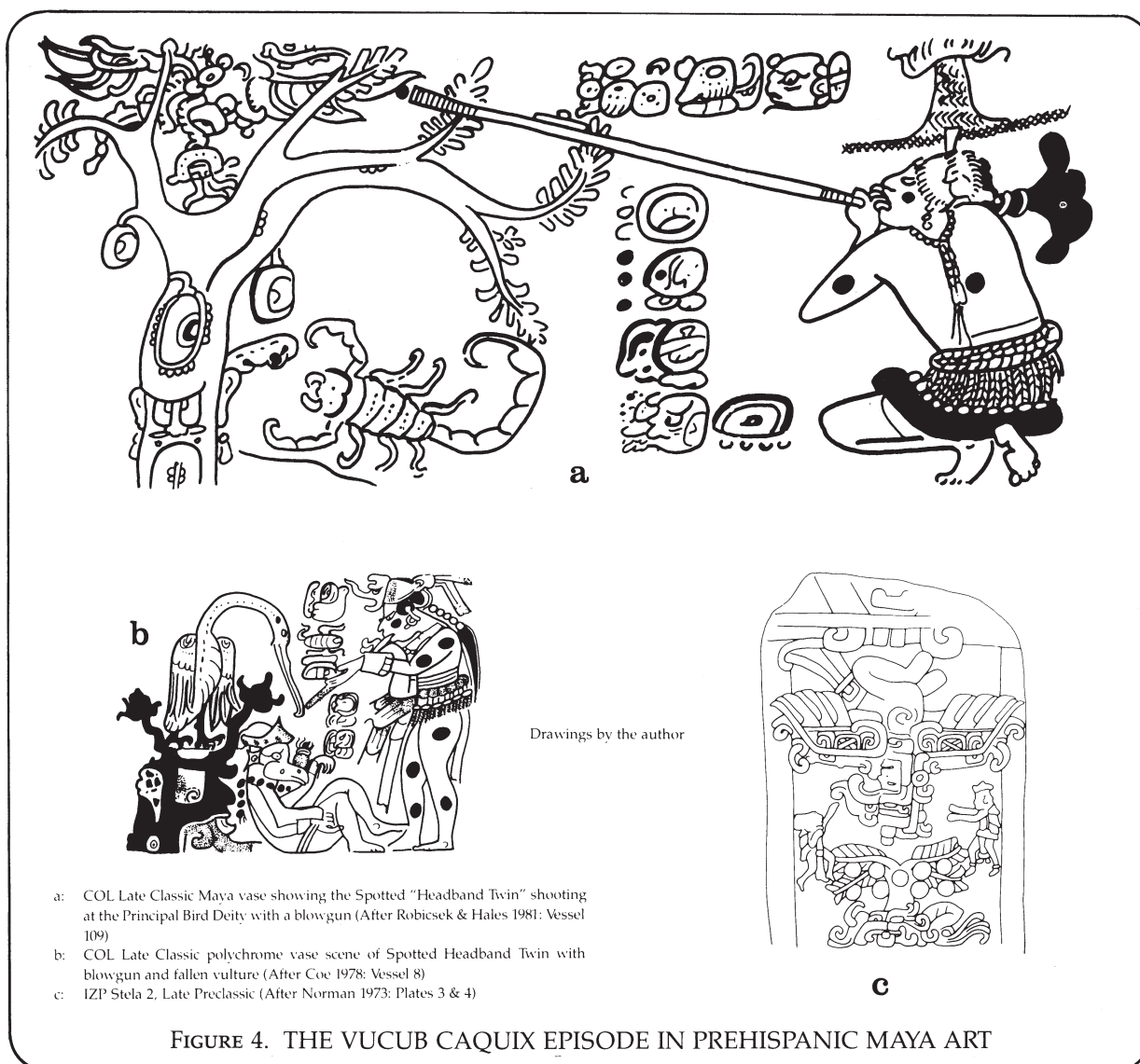
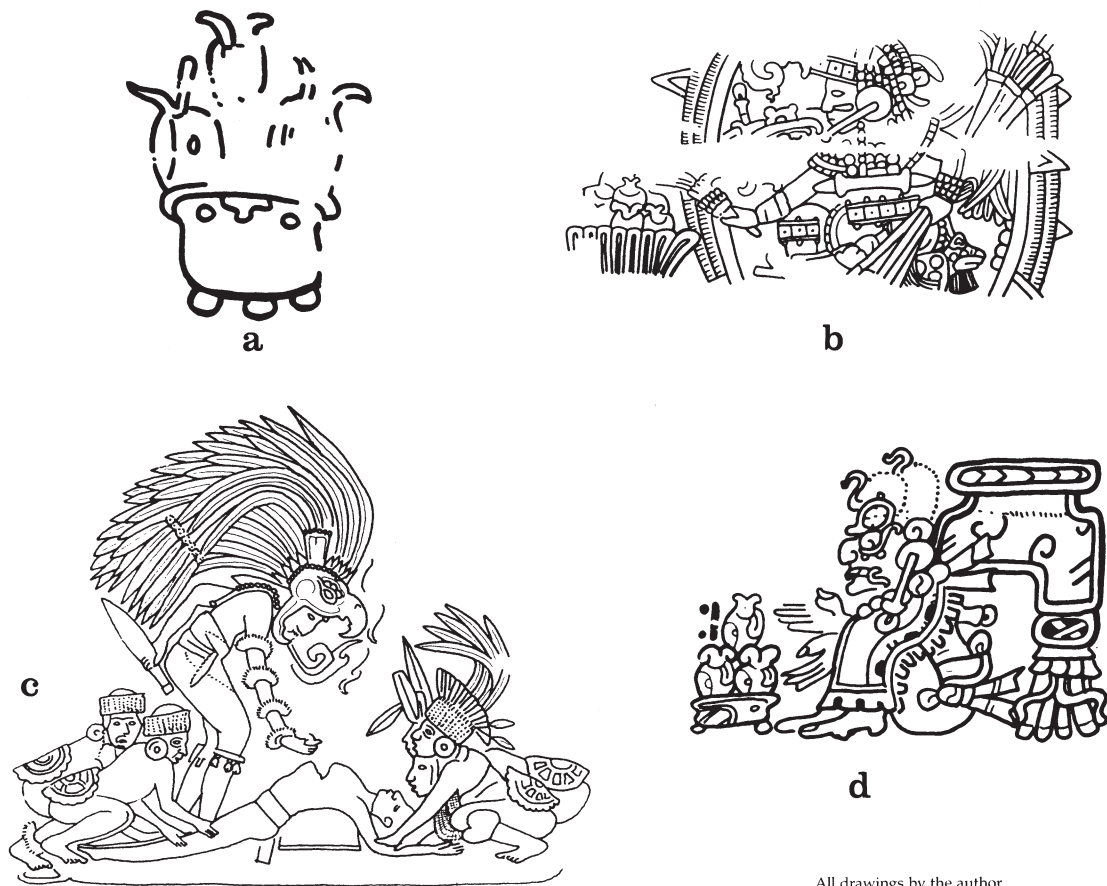


FIGURE 5. REPRESENTATIONS OF HEARTS IN POSTCLASSIC YUCATAN



All drawings by the author

a: PARIS 9, detail showing bowl of hearts

b: CHN Upper Temple of the Jaguars, lintel showing sun god facing vessel filled with hearts (From photograph of rubbing, courtesy of Merle Greene Robertson)

c: CHN Sacred Cenote, Disk H, showing heart with bifurcated element (After Tozzer 1957: Fig. 393)

d: DRESDEN 26b, detail showing God G facing bowl of hearts (After Deckert & Anders 1975)

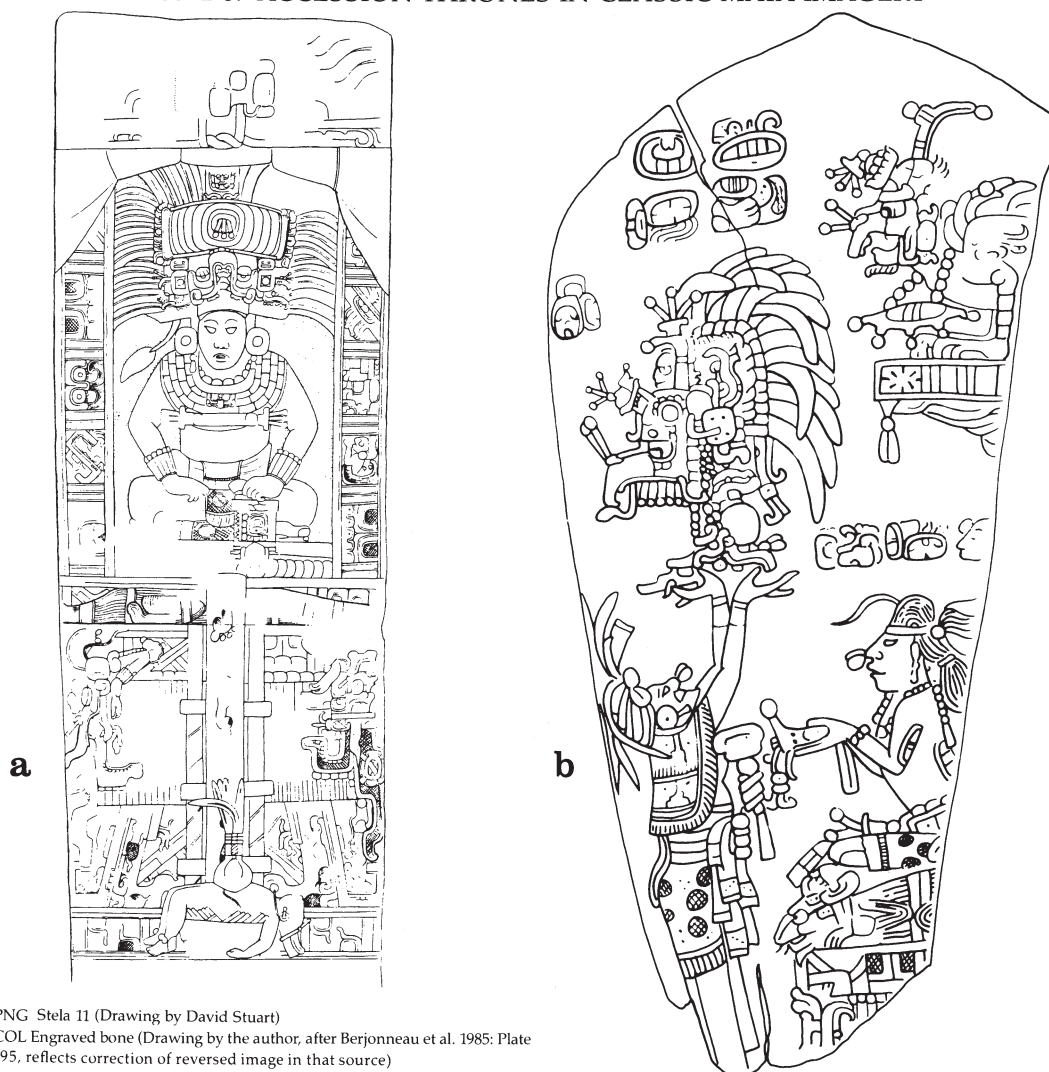
twice — once above the construction, and once as the large headdress being presented to the seated male. As at Piedras Negras, the bound image is clearly that of a deer. In the Classic Period imagery cited, there is a clear identification of the Principal Bird Deity with the accession throne and the bound deer.

However, in the katun pages of the Paris Codex, the sky-band throne and bound creatures — most apparent in the well-preserved scene on page 3 (Fig. 7) — appear with *all* the birds, and not solely with the Principal Bird Deity. In other words, the avian imagery in the pages of the Paris Codex also seems to denote change of office, although there the species depicted is not limited to a single type of bird.

SUMMARY

The bird depicted on page 11 of the Paris Codex is identified as a Late Postclassic form of the Principal Bird Deity. The particular type of face and wings match perfectly the determining characteristics of the Principal Bird Deity as defined by Bardawil (1976). The serpent wing component of the icon seems to have linguistic relationships which confine it to the Maya Area (Note 10). Due to the widespread homophony between the terms for “serpent” and “sky” in

FIGURE 6. ACCESSION THRONES IN CLASSIC MAYA IMAGERY



Photographic enlargement from the 1864 Commission
 Scientifique du Mexique edition of the Paris Codex
 (Courtesy of Mary Kay Davies, Department of
 Anthropology, Library, Smithsonian Institution, Washington, D. C.)

(Approximately two times actual size)

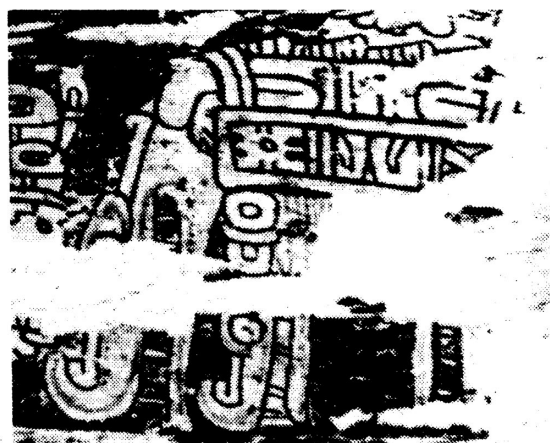


FIGURE 7. ACCESSION THRONE ON PAGE 3 OF THE PARIS CODEX

Mayan languages, the serpent head served to reiterate the celestial essence of the bird. The second characteristic, the long down-curving “lip,” is actually the representation of a bird beak, and occurs in Late Preclassic and Classic Period contexts in Oaxaca and in the Maya Area. At Izapa, as far back as Late Preclassic times, the Principal Bird Deity assumes the role of Vucub Caquix, the bird destroyed by the Hero Twins in the Popol Vuh narrative set to paper in the Guatemala Highlands in the 16th century. At Piedras Negras, the Principal Bird Deity had an important role in the accession ceremonies of Maya rulership — rites which seem to have involved scaffold sacrifice and heart extraction. In the Paris Codex, the identification of the Principal Bird Deity with sacrifice is specific, as a stream motif connects the bird to one of the sacrificial hearts depicted. Unlike the situation which obtains in the Classic iconography of the Piedras Negras accession monuments, in which the Principal Bird Deity is the sole associated entity, the content of the Paris Codex indicates that, in Postclassic times, the Principal Bird Deity is but one of many types of bird closely related to the ritual of accession.

SUBMITTED MAY 1987

Acknowledgments

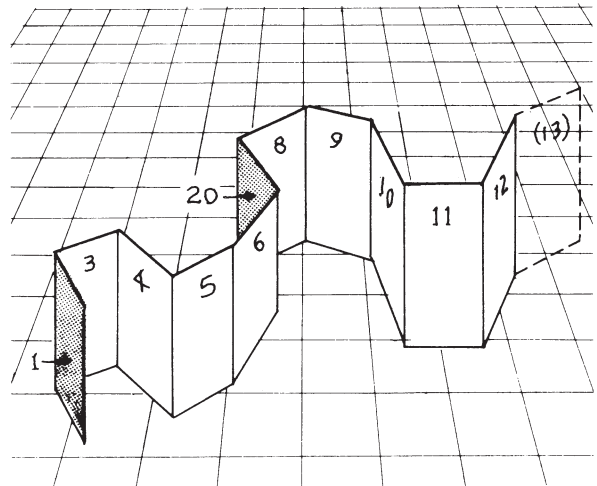
This study was written during my Junior Fellowship at Dumbarton Oaks, Washington, D. C., during the academic year 1986-1987. I am indebted to Bruce Love for bringing the 1864 photographs of the Paris Codex to my attention, and for providing useful suggestions and comments during the preparation of this paper.



NOTES

1. In its physical makeup, the Paris Codex consists of 11 vertical rectangular leaves joined in screenfold to form 22 pages. Both the obverse and reverse sides of the codex were painted. The pagination imposed upon the manuscript by various authorities has differed since its first acceptable reproduction (Commission Scientifique du Mexique 1864) — this because the content of two of the “end” pages has been lost to almost total surface deterioration, confusing the issue of both subject matter and the number of leaves assumed to be missing. The pagination employed in this paper matches that of the editions of Villacorta & Villacorta (1930, 1976), Anders (1968), and Lee (1985). That schema assigns the numbers 2 through 12 to the page sequence of one side of the codex; and the numbers 15 through 24, and then 1, to the other side. Pages 13 and 14 do not exist; their presence in the pagination results from the general contention that a now-missing 12th leaf, holding those two pages back-to-back, was once present in actuality. The accompanying sketch summarizes the situation.

2. Katuns, periods of 7,200 days (or approximately 19.7 solar years), and katun counts are treated in detail in virtually every general work on the Maya or their traditional calendar (e.g., Morley, Brainerd, & Sharer 1983:559-61). Suffice it to note for present purposes that any katun could be labeled simply by the number and name of the day of the 260-day Sacred Round on which it ended. Because of the mechanics of the system, this was always a day Ahau, preceded by a numerical coefficient 1 through 13. Because of the mathematics involved, the numbers decrease by two throughout the sequence. Thus, a chain of katuns so designated would bear a numerical progression as follows (beginning arbitrarily with Katun “7 Ahau”): 7, 5, 3, 1, 12, 10, 8, 6, 4, 2, 13, 11, 9.



3. *Muan* is the Yucatec word for a kind of owl (Barrera Vásquez 1980:531). Thompson (1950:114-15) equates *muan*, or *moan*, with the screech owl, and discusses its mythological associations.

4. The Paris Codex is probably contemporaneous with the occupation of Mayapan, that is, between about A.D. 1200 and 1450. Morley (1920:574-75 & Fig. 90) notes the extreme similarity between the somewhat effaced Mayapan Stela 9 — now designated Stela 1 — and the Paris Codex katun page scenes. The Mayapan monument also shows a deity facing another, seated on a throne. In this instance, the subsidiary god appears to be God K; the seated figure, God D or God G wearing a God K headdress. Again, a bird hovers above the

scene, which is accompanied by the date 10 Ahau. Morley notes that this is the same katun which appears on Paris page 11. The head of the Mayapan bird is virtually identical to that of the Classic Period Principal Bird Deity, although no serpent wings are apparent in the published rendering (see Proskouriakoff 1962: Fig. 12a).

5. Thompson (1930:119-35) records a long Kekchi tale from San Antonio, Belize, which contains many elements in common with the Hero Twins portion of the Popol Vuh. In one episode, the youthful Lord Kin bests the King Vulture by creating a toothache with magic maize (ibid.:131 & 136). This is very similar to the Popol Vuh destruction of Vucub Caquix, who is vanquished when maize grains are placed in his aching jaw (see Tedlock 1985:92-93).

6. Izapa Stela 2 seems to depict the victory of the Hero Twins over Vucub Caquix. The monster bird is seen descending above the twins and then lying in a crumpled mass below his favorite fruit tree. Izapa Stela 25 evidently represents the episode where Vucub Caquix tears off the arm of Hunapu. Thus the figure standing under the Principal Bird Deity has one of his arms torn off, with blood falling from the freshly-severed stump (see Norman 1973: Plates 41 & 42). In front of the wounded human, there is a caiman tree, possibly a reference to Cipacna, the caiman son of Vucub Caquix.

7. The identification of heart sacrifice with the sun is strikingly similar to the Aztec practice of offering human hearts to Huitzilopochtli, the Aztec sun god. The Maya sun god, God

G, is not only associated with heart sacrifice on Dresden 26b, but also page 25c. Here God G appears with a compound read **chak k'in**, over which a heart is placed.

8. The bird on Paris 11 has another feature not found with the two human-faced birds — the circular ornament placed on the brow. The Classic Period Principal Bird Deity frequently appears with a similar brow ornament, and it is possible that the Paris example derives from this Classic device.

9. Yet another shared trait is the downward-facing pair of serpents, resembling S-curves, which form the foundation of the throne. At Piedras Negras, they appear on Stelae 11 and 33. The remains of one can also be seen on the unprovenanced bone shown in Figure 6b. Corresponding to the rear jaw and forehead of the serpent, it appears at the front of the seat. Still another example occurs on a fine Early Classic slate mirror back from Zaculeu. Although somewhat fragmentary, the pair of snake heads support the sky band dais or platform upon which the Principal Bird Deity stands (see Bardawil 1976: Fig. 5).

10. Serpent wings are almost exclusively limited to the Maya region, although they occasionally may be found in the ceramic figurines of Classic Veracruz. One interesting example is a "Mayoid" San Marcos style anthropomorphic vulture with serpent wings (see Hammer 1971: No. 91). It is probable that the serpent wing in Veracruz is a Classic Period introduction from the Maya region.

LIST OF REFERENCES

- ADAMS, RICHARD E. W.
1986 Archaeologists explore Guatemala's Lost City of the Maya, Rio Azul. *National Geographic* 169 (4):420-451. Washington, D. C.
- ANDERS, FERDINAND
1968 *Codex Peresianus (Codex Paris)*. Bibliothèque Nationale, Paris. *Einleitung und Summary*. Codices Selecti, vol. 8. (accompanies facsimile in screenfold of 22 pages.) Graz, Austria: Akademische Druck- u. Verlagsanstalt.
- BARDAWIL, LAWRENCE W.
1976 The Principal Bird Deity in Maya Art: An Iconographic Study of Form and Meaning. In *The Art, Iconography and Dynastic History of Palenque, Part III*, edited by Merle Greene Robertson, pp. 195-209. Pebble Beach, California: Pre-Columbian Art Research & the Robert Louis Stephenson School. (Proceedings of the Second Palenque Round Table)
- BAUDEZ, CLAUDE-FRANCOIS, AND PIERRE BEQUELIN
1984 *Les Mayas*. Paris: Gallimard. (The second of three volumes in the series *Le Monde Précolombien*, in turn part of the collection *L'univers des formes*, created by Andre Malraux, and under the direction of Duval, Landais, Quoniam, & Beuret)
- BARRERA VÁSQUEZ, ALFREDO
1980 *Diccionario Maya Cordemex, Maya-Español, Español-Maya*. Mérida, Yucatán, Mexico: Ediciones Cordemex.
- BERJONNEAU, GERALD, EMILE DELETAILE, AND JEAN-LOUIS SONNERY
1985 *Rediscovered Masterpieces of Mesoamerica: Mexico, Guatemala, Honduras*. Boulogne, France: Editions Arts 135.
- BLOM, FRANS
1950 A Polychrome Plate from Quintana Roo. *Notes on Middle American Archaeology and Ethnology*, No. 98. Cambridge, Massachusetts: Carnegie Institution of Washington.
- CASO, ALFONSO, AND IGNACIO BERNAL
1952 *Urnas de Oaxaca*. Memorias del Instituto Nacional de Antropología e Historia, 2. Mexico City.
- CLANCY, FLORA S., CLEMENCY C. COGGINS, T. PATRICK CULBERT, CHARLES GALLENGKAMP, PETER D. HARRISON, AND JEREMY A. SABLOFF
1985 *Maya: Treasures of a Lost Civilization*. New York: Harry N. Abrams, Inc., in association with the Albuquerque Museum.
- COE, MICHAEL D.
1978 *Lords of the Underworld: Masterpieces of Classic Maya Ceramics*. Princeton, N.J.: Princeton University Press.
- COE, WILLIAM R.
1967 *Tikal: A Handbook of the Ancient Maya Ruins*. Philadelphia: The University Museum, University of Pennsylvania.
- COMMISSION SCIENTIFIQUE DU MEXIQUE
1864 Manuscrit dit Mexicain, No. 2 de la Bibliothèque Impériale. Photographie (sans réduction) par ordre de S. E. M. Duruy, Ministre de l'Instruction publique, présidente de la Commission scientifique du Mexique. Paris: Imprimerie Bonaventure et Ducessois, Imprimerie Photographique Benoist.
- CORTEZ, CONSTANCE
1986 The Principal Bird Deity in Preclassic and Early Classic

- Maya Art. Unpublished Masters Thesis, Department of Art, the University of Texas at Austin.
- DECKERT, HELMUT, AND FERDINAND ANDERS
1975 *Codex Dresdensis. Sächsische Landesbibliothek Dresden* (Mscr. Dres. R 310). *Kommentar*. (Accompanies screenfold facsimile in two sections of 30 and 48 pages) Graz, Austria: Akademische Druck- u. Verlagsanstalt.
- FÖRSTEMANN, ERNST
1903 *Commentar zur Pariser Mayahandschrift (Codex Peresianus)*. Danzig: Verlag von L. Sauniers Buchhandlung (G. Horn). (English version in typescript in the Bowditch German Translation Series at Tozzer Library, Harvard University, Cat. No. C. A. 7 F 685ct E F)
- GATES, WILLIAM E.
1910 Commentary upon the Maya-Tzental Perez Codex. *Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University*, vol. 6, no. 1. Cambridge, Massachusetts.
- HAMMER, OLGA
1971 *Ancient Art of Veracruz*. The Ethnic Arts Council of Los Angeles. Los Angeles, California.
- HELLMUTH, NICHOLAS M.
1986 The Surface of the Underworld: The Iconography of Maya Deities of Early Classic Art in Peten, Guatemala. Doctoral dissertation in Art History, Karl-Franzens-Universitaet, Graz, Austria.
- HOUSTON STEPHEN D.
1984 An Example of Homophony in Maya Script. *American Antiquity* 49:790-805.
- JORALEMON, DAVID
1974 Ritual Blood Sacrifice among the Ancient Maya: Part I. In *Primera Mesa Redonda de Palenque, Part 2*, edited by Merle Greene Robertson, pp. 59-75. Pebble Beach, California.
- KIDDER, ALFRED V., JESSE D. JENNINGS, AND EDWIN M. SHOOK
1946 *Excavations at Kaminaljuyu, Guatemala*. Carnegie Institution of Washington, Pub. 561. Washington, D. C.
- LEE, THOMAS A., JR.
1985 *Los Códices Mayas: Introducción y Bibliografía*. San Cristóbal de las Casas, Chiapas, Mexico: Universidad Autónoma de Chiapas.
- LOUNSBURY, FLOYD G.
1973 On the Derivation and Reading of the 'Ben-Ich' Prefix. In *Mesoamerican Writing Systems*, edited by Elizabeth P. Benson, pp. 99-144. Washington, D. C.: Dumbarton Oaks.
- MALER, TEOBERT
1901 Researches in the Central Portion of the Usumacinta Valley. *Memoirs of the Peabody Museum of Archaeology and Ethnology, Harvard University*, vol. 2, no. 1. Cambridge, Massachusetts.
- MAUDSLAY, ALFRED PERCIVAL
1889-1902 *Archaeology*. In *Biologia Centrali-Americana, or Contributions to the Knowledge of the Fauna and Flora of Mexico and Central America*, edited by F. Ducane Godman and Osbert Salvin. London: R. H. Porter and Company. Four volumes (plates) plus text.
- MORLEY, SYLVANUS GRISWOLD
1920 *The Inscriptions at Copan*. Carnegie Institution of Washington, Pub. 219. Washington, D. C.
- MORLEY, SYLVANUS GRISWOLD, GEORGE W. BRAINERD, AND ROBERT J. SHARER
1983 *The Ancient Maya*. Stanford, California: Stanford University Press. (Fourth edition, revised, of Morley 1946)
- NORMAN, V. GARTH
1973 *Izapa Sculpture, Part I: Album. Papers of the New World Archaeological Foundation*, No. 30. Provo, Utah: Brigham Young University.
- PROSKOURIAKOFF, TATIANA
1962 Civic and Religious Structures at Mayapan. In *Mayapan, Yucatan, Mexico*, by H. E. D. Pollock, Ralph L. Roys, T. Proskouriakoff, and A. Ledyard Smith, pp. 87-164. Carnegie Institution of Washington, Pub. 619. Washington, D. C.
- RIESE, BERTHOLD
1984 Hel Hieroglyphs. In *Phoneticism in Mayan Hieroglyphic Writing*, edited by John S. Justeson and Lyle Campbell, pp. 263-286. Institute for Mesoamerican Studies, State University of New York at Albany, Pub. 9. Albany.
- ROBICSEK, FRANCIS, AND DONALD M. HALES
1981 *The Maya Book of the Dead: The Ceramic Codex*. Charlottesville, Virginia: University of Virginia Art Museum; (Distributed by the University of Oklahoma Press).
- SCHELE, LINDA
1982 *Maya Glyphs: The Verbs*. Austin, Texas: University of Texas Press.
- SCHELE, LINDA, AND JEFFERY H. MILLER
1983 The Mirror, the Rabbit, and the Bundle: "Accession" Expressions from the Classic Maya Inscriptions. *Studies in Pre-Columbian Art and Archaeology*, no. 25. Washington, D.C.: Dumbarton Oaks.
- SCHELLHAS, PAUL
1904 Representation of Deities of the Maya Manuscripts. *Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University*, vol. 4, no. 1. Cambridge, Massachusetts. (Translation and revision of the second edition, *Die Göttergestalten der Maya Handschriften*, published in Dresden, 1904. First edition, same title, was 1897)
- TAUBE, KARL A.
1980 The Deer and Vulture in Classic Maya Religion. Senior Honors Thesis, Department of Anthropology, University of California at Berkeley.
in press A Study of Classic Maya Scaffold Sacrifice. In *Maya Iconography*, edited by Elizabeth P. Benson and Gillett G. Griffin. Princeton, N.J.: Princeton University Press.
- TEDLOCK, DENNIS
1985 *Popol Vuh: The Definitive Edition of the Mayan Book of the Dawn of Life and the Glories of God and Kings*. New York: Simon and Schuster.
- THOMPSON, J. ERIC S.
1930 Ethnology of the Mayas of Southern and Central British Honduras. *Field Museum of Natural History Anthropological Series*, vol. 17, no. 2. Publication 274. Chicago.
1950 *Maya Hieroglyphic Writing: Introduction*. Carnegie Institution of Washington, Pub. 589. Washington, D. C.
- TOZZER, ALFRED M.
1957 Chichen Itza and its Cenote of Sacrifice: A Comparative Study of Contemporaneous Maya and Toltec. *Memoirs of the Peabody Museum of Archaeology and Ethnology, Harvard University*, vols. 11 & 12. Cambridge, Massachusetts.
- VILLACORTA C., J. ANTONIO, AND CARLOS A. VILLACORTA
1930 *Códices Mayas*. Guatemala: Tipografía Nacional. (Another edition 1976)