

Maya Archaeology Articles

# The Old Man of the Maya Universe: A Unitary Dimension to Ancient Maya Religion

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he ancient Maya have left behind a dazzling array of religious expressions. Whether in art or writing, or in interactions between the two, each sought to turn the transcendent into the tangible, the invisible into the visible. Although representations of the supernatural are usually no more than surrogates—pointers that connect believers with mindscapes of infinitely greater abstraction—they are the products of symbolic systems and therefore subject to their rules, codes, and conventions. Using a range of iconographic and epigraphic approaches we can hope to understand those systems and retrace the one-time relationships between images, words, and artifacts on the one hand and the concepts that they were meant to convey on the other. We are fortunate that help comes from later literary sources, in the shape of accounts of Maya beliefs made under Spanish colonial rule of the sixteenth century and later. Fragments from a culture undergoing profound transformation, these offer us a tenuous but precious bridge between the Prehispanic and modern worlds.

Representations of the natural world are based on iconicity, which is to say likeness grounded in the shared principles of sight. Since the supernatural domain has no material basis it can only be represented on a symbolic level. Symbolism has two major branches: one consisting of arbitrary signs and another that enlists the power of metaphor. In both cases meaning

must be agreed by convention, but metaphors differ in that they co-opt pre-existing objects or ideas and imbue them with new significances. To distinguish this extraordinary meaning from its ordinary model it is usually necessary to mark it in some way, appending special identifying signs or setting it in some revealing context. Efforts to capture the otherworldliness of the numinous are often drawn to the transgressive and counter-intuitive, a "calculated strangeness" that distances the metaphysical from physical. Yet no matter how fantastic the resulting forms might be, they are never spontaneous ad hoc creations but the realizations of existing formulae and templates.

Images of the human body form a particular category of religious metaphors, archetypes that draw on our collective understanding of physical and mental properties.<sup>1</sup> Anthropomorphism is always far more than a pictorial mode; it encompasses the whole process by which nonhuman agents are ascribed personalities possessing complex thoughts, emotions, and motivations (Guthrie 1993; Boyer 2001:161-164) and engages them in humanlike social worlds. Here it stands apart from zoomorphism and the symbolism of the beast, which, however humanlike its attributes, always evokes something alien and

 $^{\rm 1}$  See Houston et al. 2006 for a comprehensive study of the body in Maya art and culture.

outside of ourselves.

The idealized forms of many Maya gods, ever young and beautiful, can be read as expressions of their vitality and potency as supernatural agents. But there are other bodily codes, not least the sharply contrasting one of divine decrepitude (Figure 1). Gods whose timeworn flesh hangs over near-cadaverous frames convey a different kind of message, one in which outward deterioration signals not so much decline as a shift in power from the body to the mind. Where there was once athleticism there is now acumen, where strength there is sorcery. This paper focuses on the most notable figure of this type, the wizened character traditionally known as God N. Emerging evidence suggests that he had a more profound role in ancient Maya religion than hitherto realized. The initial sections of this study describe four of the major contexts in which he appears, followed by a summary of the relevant epigraphic data, and then a wider discussion of the implications arising.<sup>2</sup>

<sup>2</sup> The core ideas in this paper have been presented in several symposia (Martin 2006c, 2006d, 2007b) and a written version was circulated to colleagues in 2007.



Figure 2. Portrait of God N with his diagnostic net headscarf knotted at the brow. Unprovenanced shell. Photo K3245 © Justin Kerr.

## 1. The World Atlanteans

The archetypal God N is an old man with a large nose and almond-shaped eyes, his wrinkled and chap-fallen face matched by a correspondingly wasted and sagging body (Schellhas 1904:37-38; Thompson 1970a; Coe 1973:14-15; Hellmuth 1987a:371-372; Taube 1992b:92-99; Bassie-Sweet 2008:132-139). On occasion he sports a wispy beard, although this is common only in the later portraits. His clothing is humble, usually restricted to a loincloth and a cut shell strung on a necklace, with his most distinctive attire a net headscarf knotted at the brow (Figure 2). Among the most common forms of God N are those that occupy turtle carapaces and mollusk shells, though he occasionally

appears within spider webs or fitted with the wings of a bat (Figure 3). He is often depicted in quadripartite form, an organization used throughout Mesoamerica to signal an alignment to the four cardinal directions. Scenes that show these old men with arms raised above their heads persuaded J. Eric S. Thompson (1970a, 1970b:276-280) that they are

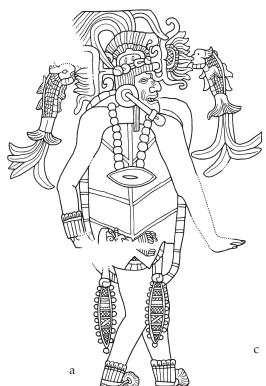
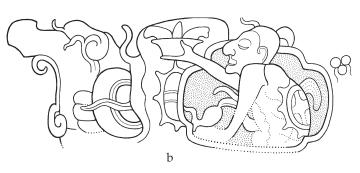


Figure 3. Varieties of God N and their role as quadripartite worldbearers: (a) Southeast Corner Column, Lower Temple of the Jaguars, Chichen Itza (drawing by Linda Schele); (b) detail from an unprovenanced vessel (after a photo in Coe 1973:124); (c) West Serpent Column, El Castillo, Chichen Itza (after a rubbing by Merle Greene Robertson). All drawings by the author unless otherwise stated.









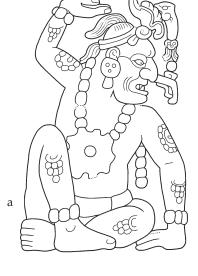
**Figure 4.** God N and world-bearing mountains on Tikal Altar 4: (a) photograph by William R. Coe; (b) detail of the turtle-backed God N within a cave.

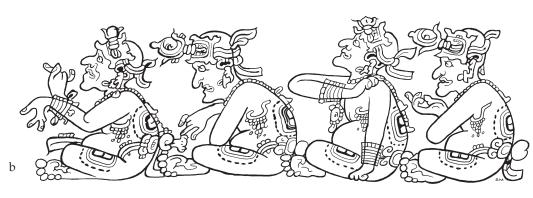
the sky-bearing Atlanteans described by early colonial writers such as Diego de Landa (Tozzer 1941:135-136):

Among the multitude of gods which this people worshipped, they adored four, each one of whom was named Bacab. These were four brothers, they said, whom God placed at the four quarters of the world when he created it, supporting the sky so that it should not fall... They give to each of them other names, and with these indicate in what quarter of the world God has placed him, holding up the sky, and they appropriate one of the four year-bearers to him... (Landa, translation in Thompson 1970b:276)

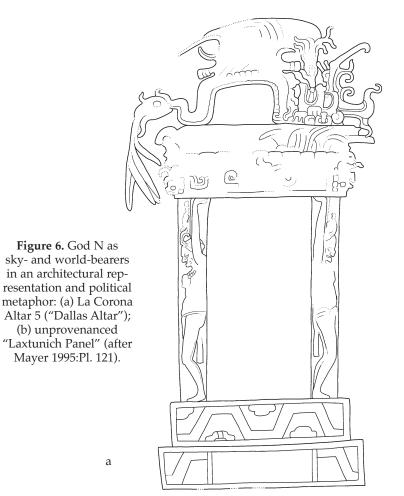
In Maya iconology the heavens are represented by a "skyband"—a string of celestial emblems including those for the sun, moon, and stars—or else by a great crocodilian monster. Such a beast encircles the top of Tikal Altar 4, whose sides show four personified mountains on which it rests, each perforated by a cave within which we see a seated, carapacebacked God N (Jones and Satterthwaite 1982:Fig. 58) (Figure 4). This long-lived quadripartite concept reappears in the four stone figurines of God N in his turtle guise excavated inside Mayapan Structure H-17, carved as much as a thousand years later (Thompson 1955:282; Proskouriakoff 1962:Fig. 2a-c). The old god's association with cosmic mountains is emphasized again at Chichen Itza, where he is shown rising, arms aloft, from their summits (Taube 1992b:94, Fig. 48a). More commonly, his skin is emblazoned with rocky motifs, establishing his role as a pillar and cornerstone of the world (Figure 5).

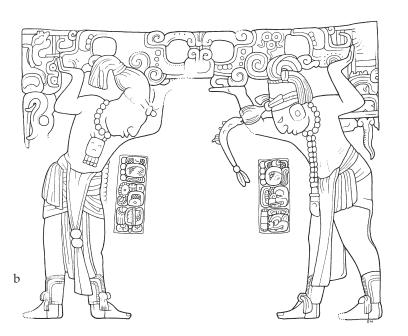
The world-bearing concept found its way into architectural representations and political metaphors. Structures designed as cosmic models show God N as a roof support at each visible corner—something we see in both depictions of buildings and as fully formed monumental sculptures (Tozzer 1957:Figs.195, 196, 615; Schele and Miller

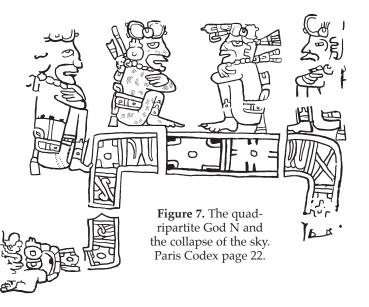




**Figure 5.** God N as cosmic cornerstones: (a) Copan Sepulturas bench support; (b) detail from unprovenanced vessel K1485 (after Robicsek and Hales 1982:19).



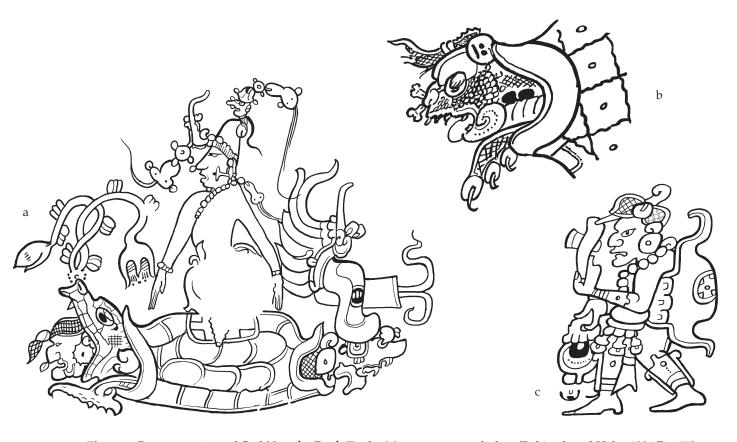




1986:122; Mayer 1989:Pl. 96; Houston 1998:352-355) (Figures 6a and 48). By extension, the duty a subordinate lord owed to his master was thought to mirror the responsibility of a heavenly bearer. Accordingly, vassals identified as God N impersonators in their glyphic captions are shown holding their suzerains aloft on sky-monster thrones (Taube 1988:198; Houston 1998:355-356) (Figure 6b).<sup>3</sup>

Colonial-era accounts not only describe how the bearers made mortal life possible by separating sky from earth, they also tell how they destroyed the previous world by allowing the heavens to fall (Roys 1933:99-100). A scene in the Paris Codex from the Postclassic period (900–c.1542), previously taken to be an image of world creation (Freidel et al. 1993:100) or a map of the spirit world (Love 1994:82-83), likely depicts this catastrophe (Martin 2005b) (Figure 7). It appears on a page introducing the New Year—a position filled with scenes of world flood and eclipses in comparable sections of the similarly dated Madrid and Dresden codices—where we see the four aged bearers, identified by their knotted headscarves. They sit in an anomalous position, not beneath the skyband but above it, with their arms folded in poses of pointed

<sup>3</sup> The example illustrated here has the masks of three personified stones set along its body, as if they form a sheath through which the skyband-bodied monster passes. This may serve to indicate a sky-earth fusion (of which more later) and stress that these supporters are comparable to the "sky-earth bearers" described by several contemporary Maya communities (see Taube 1992b:94; also Holland 1963:92; Gossen 1974:22; Vogt 1976:13).



**Figure 8.** Representations of God N as the Earth Turtle: (a) unprovenanced plate (Robicsek and Hales 1981:Fig. 57); (b) detail from an unprovenanced plate (Robicsek and Hales 1981:91) (K1892); (c) Dresden Codex page 37a.

inactivity. The blood-red scene around them is dominated by giant snakes—specified by attached hieroglyphs as the agents of eclipses—which bear death gods in their mouths.

God N's links to water are just as strong as those with stone. His net headscarf can be replaced or combined with a tied water lily leaf or its flower, often nibbled by a fish (Figures 3a, 5a, 5b, 6b, 9a). This evidently alludes to a conflation with the Water Lily Serpent, occasionally made explicit by an added feathered crest on his back (Figure 4) or an elongated snout or beak (Figure 5a) (compare to Hellmuth 1987a:Figs. 321, 322). This aquatic dimension makes reference to the great primeval pool in which the God N turtle swims. The latter is considered both the center of a five-point quincunx and the quartet of turtles united as one, thereby constituting some central focus or fulcrum for the world. It is from a fissure in its back that the Maize God emerges to symbolize the sprouting of corn (Figure 8a). In this, he breaks through the hieroglyph for k'an, generally understood as "yellow, precious, ripe," but also a reference to fecundity more generally and here an emblem of centrality as well.4 The head of God N often emerges from the front of the shell, either alone or from within the turtle's mouth, although

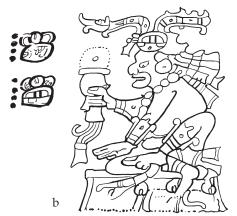
the turtle wearing the net headscarf marks his presence just as well (Figure 8b). This substitution is important, since we might otherwise read the "disgorgement" of the aged man as an act of mythic emergence. Instead, the head-in-mouth device does no more here than indicate that the two entities are in some way conjoined and is equivalent to more fully anthropomorphic versions (Figure 8c).

Landa's description of the four Bacabs finds further purchase in David Stuart's work on a panel from Pomona, Mexico (2004a:4) (Figure 9a). Now fragmentary, it originally showed four figures adorned with water lily headbands, named in their captions as more lordly impersonators of the

<sup>4</sup> The male version of the Central Mexican earth monster, Tlalteotl, bears the symbol for *xihuitl* "turquoise/year"—a design that closely resembles the Maya *k'an* sign—on his back or midriff (see Taube 2000:312-313). This contrasts with the *chalchihuitl* "jade/precious stone" symbol borne by the female version, from which deities are born (Nicholson 1967a:82). The idea of centrality in the Maya form is emphasized in one example, shown as Figure 15c in this study, where the normal *k'an* marking is replaced by a quincunx (in side view)—a design that represents the world axis surrounded by the four directions.

Figure 9. God N and the Maya Year: (a) Pomona Panel 1 (after a photo by Carlos Pallan); (b) Dresden Codex page 48a (together with substituting name glyphs); (c) Palenque Tablet of the 96 Glyphs, D1a.







aged cornerstones. Each holds a hieroglyphic day sign and its coefficient, representing one of the four days of the 260-day ritual calendar on which the *haab/ha'b* or 365-day "vague year" can begin—making them direct analogs to the year-bearers described by Landa. God N's intimate relationship to the Maya year is no plainer than when he wears the hieroglyph for this period atop his head (Figure 9b, c). Time itself was one of his burdens.

To recapitulate, thus far we have seen God N representing the earth's center as well as sky- and year-bearers in cardinally aligned, quadripartite form, all of which are linked to primeval waters and to the rock from which cosmic cornerstones are made. The following sections will take us beyond this terrestrial domain to show how the Old Man (a nickname we will use outside these contexts) appears in other parts of the Maya universe.

## 2. Crocodiles Above and Below Us

We will turn next to the Cosmic Monster, a term that actually encompasses two separate beasts, both based on a fantastic crocodile. Each is associated with a complex array of motifs



**Figure 10.** Contrasting crocodiles on a pair of shell earflares: (a) Earth Crocodile; (b) Sky Crocodile. Photo K7544 © Justin Kerr.

and body forms, at times combined in ways that defy easy separation. A pair of unprovenanced ear ornaments of cut shell—likely dating to the Early Classic period (250–600 CE)—neatly illustrates the contrasting versions: one associated with the earth (Figure 10a), the other with the sky (Figure 10b).<sup>5</sup>

The heavenly version has been discussed under half a dozen or more nicknames, including the Sky Monster, Celestial Dragon, and Starry-Deer Crocodile (Spinden 1913:53-56; Thompson 1970b:216-224; Stone 1985:39-48; Freidel et al. 1993:90-91; Milbrath 1999:275-282; Velásquez García 2002:419-432, 2006; Stuart 2003, 2005c:70-75) (Figure 11). Its body often takes the form of the aforementioned skyband (Figure 12a), and in the Classic period (250–900 cE) its eyes usually consist of star symbols, half-obscured by heavy lids (Figure 13b). Rare examples sport deer antlers but more regularly show the same animal's long ears—themselves marked by stars. More stars can be attached to its body, at times defining the spiny ridge of its back. A bivalve shell, of the kind associated with the rain deity Chahk, can be worn behind its cheeks. Its legs end in hooves, often inset with one or more polished celts, while its joints are marked by a curled motif associated with water. A stream of liquid can flow from the mouth, often containing the same jewel-like motifs dispensed in royal "scattering" ceremonies. In the Dresden Codex this outpouring represents a worlddestroying flood (Figure 12b), while on carved monuments it can be crosshatched to indicate a dark color—reminding one of blood or the resinous rain that ends the third creation in the Colonial period Popol Vuh epic of the K'iche' Maya (Tedlock 1996:71; Christenson 2003:87). Where we would expect to see a tail we often find another head, this one skeletal and inverted. This is the personified base of a "sun"-marked vessel



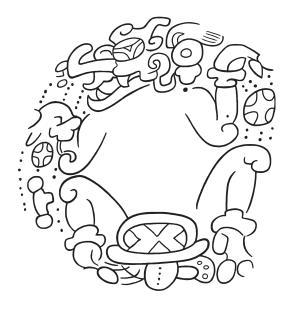
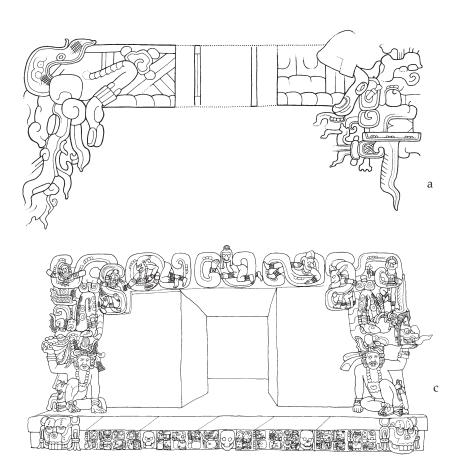
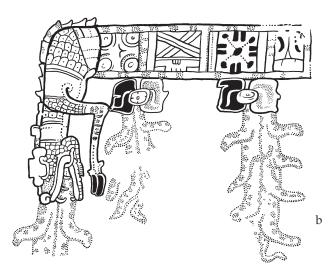


Figure 11. Cosmic Monster of the Sky on an unprovenanced jade earflare. Photo K3166 © Justin Kerr.





**Figure 12.** Cosmic Monster of the Sky: (a) Piedras Negras Stela 11 (drawing by David Stuart, Corpus of Maya Hieroglyphic Inscriptions, Peabody Museum, Trustees of Harvard University);

(b) Dresden Codex page 74; (c) Copan Temple 22 interior sculpture (drawing by Linda Schele).

 $<sup>^{5}</sup>$  This object is designated as K7544 in the Justin Kerr photographic archive, in this case in the Portfolio section accessible at research.mayavase. com/kerrportfolio.

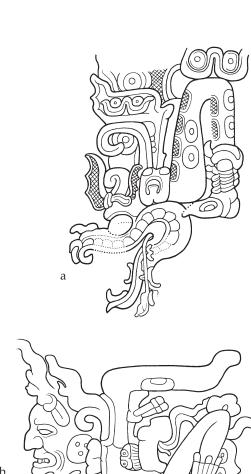




Figure 13. Sky Monsters conjoined with the Old Man: (a) interior frieze from Copan Structure 22; (b) Copan Structure 9N-82 Bench (detail of far left side); (c) Dresden Codex page 46a.



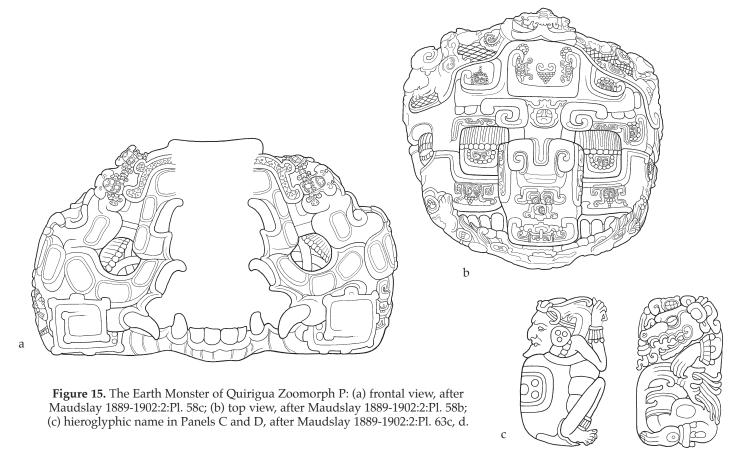
Figure 14. Cosmic Monster of the Earth carved in shell. Photo K8750 © Justin Kerr.

containing a stingray spine, shell, and pectoral jewel—items collectively known as the Quadripartite Badge (Robertson 1974). This sacrificial bowl or brazier is strongly associated with the east and the rising sun (Stone 1985:48; Stuart 2005c:167-168), and in one recent analysis is thought to symbolize a womb entrance (Taube 2009:99-106).

Recurring stellar motifs plainly suggest a creature of the night. Its head, or even just its half-closed starry eye, can take the place of the regular star sign in Lamat, the eighth day of the ritual Maya calendar (Figure 30a). A more specific identification emerges from Copan, Honduras, where a sculpted frieze inside Structure 22 shows its body—suitably supported by a pair of elderly bearers complete with net headscarves and stone motifs—composed of the kind of S-shaped scrolls that elsewhere represent clouds, suggesting that it depicts the great "cloudy" arc of the Milky Way (Stuart 1984:15-16, 2003; Houston and Stuart [1990]1992; Freidel et al. 1993:Fig. 2:20) (Figure 12c). In modern times the Ch'orti' Maya have described the sky as a great inverted ocean (Girard 1952:27), and one might credibly see the silvery ribbon of the night as the sinuous body of a floating crocodile.<sup>6</sup>

Most importantly for our purposes, the sky monster commonly wears the net headscarf (Stone 1985:39, 46) (Figure 13a) or has the head of the Old Man emerging from its jaws (Figure 13b). Another variant from the Dresden Codex shows a full-bodied old god seated on a skyband throne, his net headscarf peeking from beneath a saurian headdress (Figure 13c). His corresponding name glyph combines the head of a crocodile with the headscarf—the latter standing as a *pars pro toto* device for the Old Man in writing as it does in art.

The earthly counterpart of the sky crocodile shares its basic anatomy but differs in several respects. This second creature serves as a Maya metaphor for the material



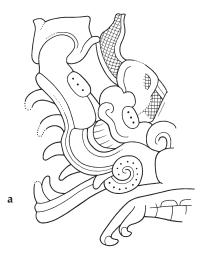
body of the earth, equivalent to Cipactli and Tlalteotl, monsters that play very similar roles in the mythology of Central Mexico (Martínez Hernández 1913:165-166; Hellmuth 1987a:276-277; Taube 1989a, 1992b:128-131). In one Central Mexican legend, creator gods transform the part-fish, part-crocodile Cipactli into Tlalteotl, while in another they slay Tlalteotl to make its body into the first land (Garibay 1965:26, 108).7 The Maya of Colonialera Yucatan called this creature Itzam Cab Ain (itzam kab ahiin) or "Itzam Earth Crocodile." It takes a prominent role in the stories of world creation in the Chilam Balam documents, where it is also killed and its body used to make the first terra firma (Roys 1933:101). A vestige of the tale survives in the Popol Vuh, where the Hero Twins trick an aquatic monster called Zipacna into entering a cave, where it is trapped and turned into stone. The relationship between the names Zipacna and Cipactli provides clear support for this connection (Tedlock 1996:240; Christenson 2003:95 n. 168).

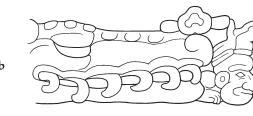
Images of the terrestrial monster naturally lack the star signs and skyband body of the celestial version, but it also does without the deer antlers, ears, and hooves. Its snout is usually curled and tipped by the scalloped shell of the *yax* sign (Figure 14, 15a), a feature tied to the ability to exhale mist and clouds

(Taube 2003:426-427). Its eyes take a cross-banded design peculiar to supernatural crocodilians, while ovoid patches enclosing a line of dots are another diagnostic element. It is often associated with maize foliation, a symbol of both sprouting corn and by extension the concept of place (Stuart and Houston 1994:21; Tokovinine 2013:9-10). This finds a close analogue in images of Cipactli, whose spiny back is planted with maize stalks to symbolize fertile ground (see Codex Borgia page 27). Also like Cipactli, its hind limbs can be missing altogether as the lower body becomes overtly piscine and ends in a feathery tailfin. These watery characteristics are amplified by the water lilies and aquatic environments it is associated with—like the turtle, this is a creature of the primeval pool. The sometime inclusion of stone

<sup>&</sup>lt;sup>6</sup> Following Spinden (1928:23), another scholarly tradition characterizes the beast as a "Venus Monster," whose starry eye represents this planet (one native term for Venus is Ah Noh Ich "Great Eye"; Joyce et al. 1927:317). Other interpreters have seen the motion of Venus in the crocodile's form (Closs et al. 1984), or the solar pathway of the ecliptic (Velásquez García 2002)—a view consistent with its association with the eastern dawn. The descent of Venus in the wake of the setting sun is further viewed as the monster's pursuit and ultimate devouring of the solar disk, filling the sky with darkness (Schele and Miller 1985:45; Ignacio Cases, personal communication 2007).

<sup>&</sup>lt;sup>7</sup> Cipactli is described in the *Historia de los mexicanos por sus pinturas* as: "…a great fish… which was like an alligator and from this fish the earth was made…" (Garibay 1965:26; Taube 1989a:2). This entity has a heritage reaching back to Olmec times. The cape worn by a clay figure from Atlihuayan, Mexico, consists of a saurian with a fin-like tail (Joralemon 1976:Fig. 4a). In addition, the early greenstone figure of the "Young Lord" has two inverted beasts incised on its thighs—one of them crocodilian, the other a shark-like fish (see Reilly 1991:159-162; Joralemon 1996b), both of which appear to symbolize cosmic trees (Martin 2006a:Fig. 8.4, n. 16).







motifs on its skin presumably expresses its relationship to the rocky body of the earth (see Maudslay 1889-1902:1:Pl. 68a). Zipacna declared himself the "maker of mountains," while his sawtooth back was compared to a mountain range (Christenson 2003:101 n. 168).

There was also a fourfold dimension to the earthly version, represented by another form of heavenly support: Cosmic Trees. As in Central Mexico, these great arbors at the corners of the world were embodiments of the crocodilian earth monster, rendered with its torso rearing up to form the trunk, its tail dividing into branches and leaves (Hellmuth 1987a:282, Figs. 595-599). It is this leafy aspect that is highlighted in the earthly beast on the shell ear ornaments (Figure 10a). Occasionally cosmic trees retain their fishy tailfins, which can, a little incongruously, also sprout fruit (see Martin 2006a:Fig. 8.8a).

A feature the terrestrial creature shares with its celestial cousin is its association with the Old Man. The great leviathan of Zoomorph P at Quirigua, Guatemala (Figure 15a), wears a net headscarf, visible from above (Stone 1985:39) (Figure 15b). The plates on its face are filled with hieroglyphs, and sequential ones feature first a turtle-backed God N and then a fishtailed crocodile, as if they combine to name the compound entity (Figure 15c).8 Other instances of the yax-nosed beast also wear net headscarves (Figure 16a), show the Old Man within their jaws (Figure 16b), or show a full-bodied Old Man wearing a crocodile headdress (Figure 16c)—the latter matching the anthropomorphic sky variant previously seen in the Dresden Codex (Figure 12c). The set of three equivalent ways of expressing the involvement of the Old Man is therefore repeated. They are joined by a subtler fourth, which shows a crocodile equipped with human hands in place of claws, tied water lilies serving as its cuffs (see Maudslay 1889-1902:2:Pl. 95; Meskell and Joyce 2003:91). One last case may come in the human bodies of the ear-ornament crocodiles, which are likely more than simple anthropomorphism and constitute a fifth way of expressing this union (Figure 10).

Figure 16. Earth Monsters conjoined with the Old Man: (a) Yaxchilan Hieroglyphic Stairway 3, Step III (after a drawing by Ian Graham); (b) unprovenanced sculpted block (after Mayer 1984:Pl. 52); (c) unprovenanced polychrome plate (after a photo by Stephen D. Houston).



**Figure 17.** God D examining an open codex on an unprovenanced vessel. Painting by Mary Louise Baker, courtesy of the University of Pennsylvania Museum of Archaeology and Anthropology.

## 3. The Old Man and the Bird

Paul Schellhas (1904:22-23) assigned the label God D to a prominent old deity in the Postclassic codices, ultimately recognized in the art and writing of the Classic era by Nicholas Hellmuth (1987a:303-312) (Figure 17). On polychrome vessels he is commonly shown seated on a skyband throne, sometimes shared with the Moon Goddess, from which he presides over a celestial court (Figure 18). He is visited by a variety of other deities, each of which assumes a deferential pose. Under the name Itzamna—a term we will examine presently—God D has long been considered the preeminent Maya deity of the sky (Seler [1887]1990:98; Thompson 1970b:228-229; Taube 1992b:31-41).

The typical God D wears a diadem featuring a tasseled, flowerlike motif that when shown frontally has the glyph for *ahk'ab* "darkness/night" at its center.<sup>10</sup> His face is aged, with a prominent nose and a near-toothless, wrinkled jaw.<sup>11</sup> His eyes are large with a square pupil in one corner, a feature that produces a cross-eyed effect when depicted in three dimensions. God D's head can be elongated, with his hair cut into the tonsured fringe usually associated with the Maize God. His crown is further embellished with an upward-pointing earspool jewel, from which emerges the scalloped shell of the *yax* motif. He has markings on his body that represent jade or more specifically the concept of "brightness/shininess"—a point we will also return to—and wears a fancy tri-lobed medallion on a bead necklace.

All of these features, with the exception of the human face and body, are shared with another entity, the Principal Bird Deity (Hellmuth 1987a:254-262, 362-367) (Figure 19). First described by Lawrence Bardawil (1976), this creature additionally shows the serpent-head wings of supernatural avians sometimes containing opposed emblems for *k'in* "day, light" and ahk'ab "night, darkness"—and the arching beak of a raptor, which often grasps a bicephalic serpent. The Principal Bird Deity has a deep history in Maya culture and can be traced first through art and then writing for almost two millennia (Lowe et al. 1982:Fig. 2.2; Parsons 1983:155; Stone 1983:216; Cortez 1986; Hellmuth 1987a:227-270, 364-365; Taube 1987; Guernsey 2006:95-117; Taube et al. 2010:29-57). The earliest precursors of the great bird can be recognized in Olmec art (Cortez 1986; Joralemon 1996:54-55), while versions seen among other Mesoamerican cultures attest to its lasting pan-regional significance (Nielsen and Helmke 2015). From about 300 BCE onwards the Preclassic Maya carved its image on monuments, painted it on murals, and modeled it in stucco as the huge

<sup>9</sup> The caption to this figure seems to be only partially literate, but after **u-ba-ji/hi** *ubaah* "the image of" we find a crosshatched sign that could equate to a net headband and then a clear bird head that refers to the Principal Bird Deity—see following discussion.

<sup>10</sup> See Proto-Ch'olan \*ahk'äb' "noche" in Kaufman and Norman 1984:115 (Marc Zender, personal communication 2015).

<sup>11</sup> There are a few portraits in which God D appears young and handsome (e.g., K2026 and K8008). Some of these seem to be human impersonators, or possibly fusions with a youthful deity such as the Maize God, but another possibility is that an archetypal image of kingship, *ajaw*, can supplant that of the Old Man.

<sup>&</sup>lt;sup>8</sup> Note here the three-spotted ear ornament worn by the Old Man, a device that otherwise appears on the tympanic membranes of turtles and toads in Maya art. Together with water lilies, it is a fairly consistent reference to the aquatic dimension of this character.

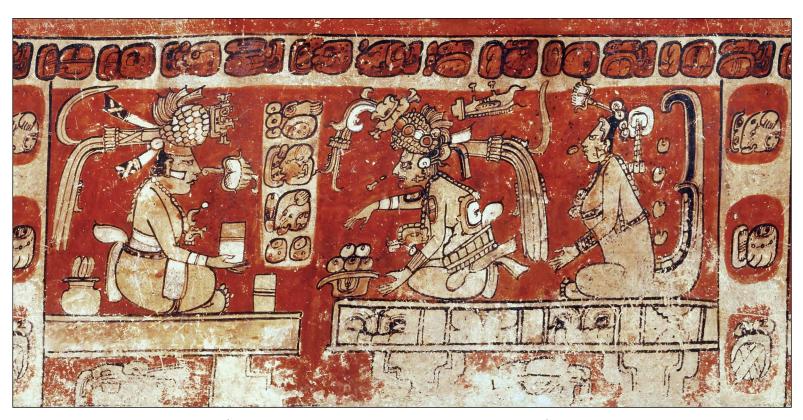


Figure 18. God D in his celestial court; unprovenanced vessel. Detail of rollout photo K504 © Justin Kerr.



**Figure 19.** The Principal Bird Deity on an unprovenanced vessel. Photo K3863 © Justin Kerr.

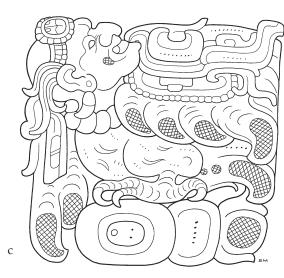
"long-lipped" masks set on building facades. During the ensuing Classic era it is commonly shown perched on skybands or as the central mask and wings within the richly feathered headdresses worn by kings. It is attested in Postclassic and even Colonial times, where it corresponds, at least in part, to the malign Vucub Caquix "Seven Macaw" described in the Popol Vuh.<sup>12</sup>

The visual link between God D and the bird is perhaps clearest where the arms of the celestial ruler are plumed in the form of wings (e.g., Hellmuth 1987a:Fig. 585; Houston et al. 2006:236-241). In some of these instances his head is replaced

<sup>12</sup> Two episodes from the career of Vucub Caquix—the blowgun attack launched by Hunahpu and the bird's retaliation in tearing off Hunahpu's arm—have precedents in much earlier sources, but the type of bird differs in each. The Principal Bird Deity receives the blowgun pellet while the arm is severed by a macaw, whether pictured as such or named in an accompanying caption (Hellmuth 1987a:365; Zender 1999:40, 2005:9; Bassie-Sweet 2002:31-34; Chinchilla Mazariegos 2010:125). This discrepancy suggests some greater complexity to the original story or stories. Based on scenes in the Codex Borgia, it is possible to see the macaw as a directional aspect of the solar avian god (Martin 2006b). However, the consistency with which this bird appears in the Central Mexican versions of the tale (see Nielsen and Helmke 2015:Figs. 6, 11, 18)—including one case in the Maya area displaying clear Teotihuacan iconography (Fash and Fash 1996:132, Fig. 3)—might point to differing regional traditions that were accommodated and mixed over time.







**Figure 20.** God D as the Principal Bird Deity fused with the Old Man: (a) unprovenanced vessel (after photo K7727 by Justin Kerr); (b) Esquintla-style vessel (from Hellmuth 1987a:Fig. 488); (c) panel in the Tonina site museum.

by that of the bird, with one Early Classic vessel from Kaminaljuyu depicting a group of four such winged dancers (Kidder et al. 1946:Fig. 207e)—a scene that brings to mind the quadripartite set of Principal Bird Deities perched in trees in the murals of San Bartolo (Taube et al. 2010:52, passim). The Principal Bird Deity has variously been described as the "manifestation," "avatar," "aspect," or "messenger" of God D, although the precise nature of their relationship remains cloudy.<sup>13</sup>

Until recently there was little to suggest the involvement of the Old Man here, yet his role proves to be fundamental. Images of God D are normally captioned by a single hieroglyph, his portrait head (see Figure 31b). Yet there are a few crucial exceptions. In one of these the text begins with yaljiiy "he said it," followed by the heads of first the Old Man and then the Principal Bird Deity (Figure 20a, see also Figure 32). Depictions of the bird character include at least one where it wears the net design (Figure 20b, compare to Figure 32d), although an even clearer link comes where it displays the now-familiar wizened human face (Figure 20c). 14 Karen Bassie-Sweet (2002:29, 2008:139) has proposed a radical but convincing solution to these conjunctions. She identifies God D as a fusion of God N with the Principal Bird Deity—with the former supplying the roman nose, sunken jaw, and sagging body; the latter the square "godeye," tasseled-diadem, and attendant jewels. 15 The union we see in figural representations is mirrored in the standard glyphic form, with a habitual conflation between man and bird that successfully obscures their separate identities. We will debate the meaning of this later, but it is enough for now to note the value of this observation, which opens a door to new notions of God D and his significance to Maya religion.

<sup>&</sup>lt;sup>13</sup> For example, Taube 1992b:36; Schele and Mathews 1998:268; Bassie-Sweet 2002:29, 2008:140; Boot 2004:2, 2008:14; Zender 2005:9; Houston et al. 2006:236, 238; Taube et al. 2010:30.

<sup>&</sup>lt;sup>14</sup> On a few occasions the name of God D is preceded by *muut* "bird." Rather than a general descriptive or permanent fixture of his name, this seems to refer to a fully realized bird body for this character, distinguishing it from the overtly anthropomorphic form that is much more common. The Old Man-headed bird in Figure 20c perches on a ti sign, which acts as a phonetic suffix to MUUT. More complete spellings of this version of God D appear at the site of Xcalumkin (Houston et al. 2006:236), while an additional example probably appears on Tonina Monument 160 at G3–H3 (Graham et al. 2006:96-97). See K3413 and K4143 for other Old Man-headed versions of the Principal Bird Deity.

<sup>&</sup>lt;sup>15</sup> Michael Coe (1978:46) anticipated this work by identifying the character that would ultimately prove to be God D as a form of God N, based on his aged features.



Figure 21. God L as ruler of the Maya Underworld on the unprovenanced "Vase of the Seven Gods." Photo K2796 © Justin Kerr.

## 4. Aged Lords of the Netherworld

Conflations between the Old Man and major supernaturals do not end here, and there is reason to believe that God L, the primary lord of the Maya Underworld, is also connected to this complex. Key features of God L stem from the jaguar: he commonly sports a feline ear or patches of spotted pelt on his body, especially around the mouth (Figure 21). Usually he is shown with a large god-eye, this time in spiral form, and skin that is either colored black or marked by glyphs for ahk'ab "darkness." On his head he wears a broad feather-trimmed hat, within which sits an owl crowned with maize symbolism. God L also wears a fancy cape of woven textile or jaguar pelt and carries a square-nosed serpent scepter. The latter can become the long walking staff of a trader, and in this guise he sometimes carries a merchant's pack on his back. An inveterate smoker, he puffs on slender cigarillos as well as fat, loosely rolled cigars, or holds a bouquet of tobacco leaves (Schellhas 1904:34-35; Coe 1973:91, 107, 1978:16-21; Hellmuth 1987a:297-298; Taube 1992b:79-88; Miller and Martin 2004:58-63, 281; Houston et al. 2006:114; Martin 2006a:169-172, 2010, 2013:534-537).

God L always has elderly features, and these can develop

into a fully human countenance (Figure 22). Previously seen as mere variation, this might yet have a greater meaning. The Underworld lord turns up in Postclassic codices such as the Dresden Codex, where his diagnostic attributes are unchanged from earlier times (Figure 23a). In the Classic era his name glyph is rather elusive, but here it consists of an icon of falling rain joined to a blackened portrait head, with a large nose and spiral god-eye. 16 Elsewhere in the same manuscript we see a figure wearing the owl crest and fancy cape associated with God L, although his face has become that of an aged man with pale skin (Figure 23b). Importantly, atop his head he wears the *haab*/ *ha'b* hieroglyph, the emblem of God N as year-bearer (compare with Figure 9b). His name is missing from the relevant caption, but any doubt as to whether this remains a portrait of God L is dispelled by a third image in this codex (Figure 23c). Here we have the same old, pale-skinned deity who sports the owl and "year" device on his head, but this time the accompanying text explicitly names him as God L (see Thompson 1970a:479).<sup>17</sup>

If such a combination can represent a singular God L in the Postclassic period, might his aged features in the Classic allude to another such union? Both iconographic and epigraphic support can be marshaled for this suggestion. A vase listed as K1398 in the Kerr archive—or less formally the "Regal Bunny Pot"—bears two scenes from a narrative in which God L is robbed of his clothes and insignia (Kerr 1989:81). 18 In the first, a near-naked God L is taunted by a rabbit that has possession of his staff, hat, cloak, and jewels (Figure 24a). In the second, God L kneels submissively before the Sun God and accuses the rabbit of their theft (Stuart 1993a:170-171) (Figure 24b). On this occasion God L wears the net headscarf, distinctively knotted at the brow. This association with the Old Man is echoed in the rabbit's speech to God L in the first scene, which concludes with a nominal glyph composed of the net headscarf atop a conventionalized human penis (see Figures 24a and 35b).

<sup>16</sup> The reference to rain in the Postclassic version of God L's name could relate to a world-destroying flood of which he was a principal victim (Martin 2005b). For the Classic era the best lead appears on K5359, where we find him captioned by **13-mu? yu-CHAN-na**, perhaps reading *uxlajuun muy chan* "Thirteen Cloud Sky." For further discussions of God L's Classic-period name see Miller and Martin (2004:281 n. 17) and Martin (2006a:182 n. 23).

<sup>17</sup> Thompson (1970a:479) notes that Mictlantecuhtli, the Underworld lord of Central Mexico, was also a sky-bearer. Later, in his commentary on the Dresden Codex, Thompson draws back from some of his earlier conclusions and identifies both the second and third of these examples as Bacabs, which is to say God N (Thompson 1976:40, 60). He notes the similarity of the crest to that worn by God L, but is undecided if it represents a bird or a fish.

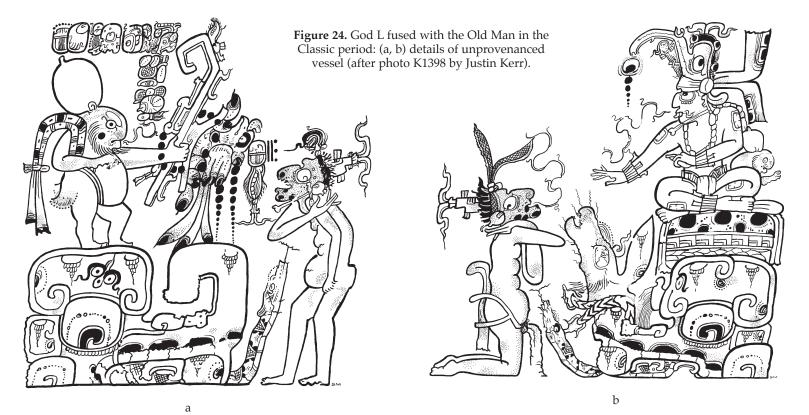
<sup>18</sup> K-prefixed designations refer to images in the Justin Kerr photographic archive, in this case the Maya Vase Database accessible at research.mayavase. com/kerrmaya.



**Figure 22.** God L with the face of an aged man on the "Princeton Vase" (after photo K511 by Justin Kerr).



Figure 23. God L fused with the Old Man in the Postclassic period: (a) Dresden Codex page 14c; (b) Dresden Codex page 23c; (c) Dresden Codex page 14b.



Maya Archaeology 200

201 Simon Martin



**Figure 25.** The humiliation of God L. Unprovenanced vessel (after photo K1560 by Justin Kerr).

The same term is applied to God L on a vessel illustrating a related episode (Figures 25 and 35a). A "codex-style" ceramic designated K1560, it shows three scenes of the Maize God and his dwarf and hunchback companions assaulting and denuding old deities (Kerr 1989:98). In addition to God L, punishment is meted out to the Stingray Paddler and Jaguar Paddler. This pair take their names from the scenes in which they transport the Maize God across a great primeval water, a key episode on his journey into death and darkness. Each scene on K1560 is accompanied by one or more texts spoken by the corn deity, with all three victims referred to using the same headscarf-and-penis glyph—as if it serves as a collective term for them. The Jaguar Paddler is the better known of the two ferrymen and on most occasions is indistinguishable from the Jaguar God of the Underworld. The prime diagnostics of this other key netherworld deity are a single shark's tooth, spiral-eye, and aged face, often topped by a jaguar headdress (see Schele 1987:3; Martin 2013:535-537, Fig. 11.11). As with God L, the Paddlers' elderly features could reflect degrees of pictorial engagement with the Old Man.

Here we should also note a significant find made at the site of Holmul, Guatemala (Estrada-Belli 2011:92-95). There excavation of Structure B revealed two monumental stucco masks, both consisting of a large jaguar head with the face and hands of an aged man in its jaws (Figure 26). The masks are flanked by human skulls and crossed bones, all enclosed

<sup>19</sup> The headscarf-and-penis glyph is also associated with the Jaguar God of the Underworld on a finely incised vessel excavated from the Mundo Perdido complex at Tikal (see Stuart et al. 1999:20). Its scene shows a handsome lord equipped with a jaguar headdress and paws—common attributes of this deity—enthroned within a monstrous cave mouth. Beyond a now-effaced supplicant he views two ranks of anthropomorphic beasts and elderly deities, including at least two varieties of God N. The jaguar lord has a curling "speech scroll" and his words are recorded in the adjacent first-person inscription. After ya-la-ji-ya yaljiiy "he said it" we find his lengthy name phrase, which concludes with the headscarf-and-penis compound.



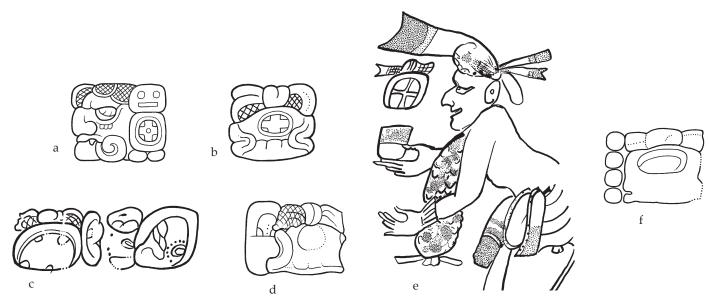


Figure 27. Names of the God N turtle: (a) Piedras Negras Panel 3, U3; (b) Piedras Negras Panel 2, X10 (drawing by David Stuart); (c) Paqal Incised sherd, Yaxche phase, Piedras Negras Operation 24B-1-4 (after Houston et al. 1999:Fig. 7); (d) Copan Structure 2, Step 2, S1a; (e) unprovenanced vessel (after photo K8763 by Justin Kerr); (f) panel originally from Pomona (after Mayer 1978:Pl. 53).

by the stepped profiles of mountains. This netherworld setting, together with the "in-mouth" motif indicative of conjoined identities, could suggest that the central character is one of the netherworld jaguars in his Old Man persona. Whatever the truth of this, the dating of the first phase of these sculptures to about 400 BCE, the beginning of the Late Preclassic period, makes these the earliest known images of the Old Man in Maya art.

## Reading the Old Man

Before going further, we need to address the outstanding epigraphic questions and to examine the names by which ancient believers knew the Old Man and his conjoined forms. The fragmentary nature of the evidence means that this is no simple task, with interpretation often turning, somewhat hesitantly, on a handful of spellings and contexts. Each of the major cosmological domains in which we find the Old Man is here revisited in turn.

(1) Landa gives several names for the sky-bearers, but emphasizes one of them, Bacab (*bakab*). In the wake of Thompson's (1970a) work on the topic this became something of a default name for God N. But while *bakab* appears in Classic-era inscriptions it does so only as a title borne by kings and high-ranking nobles and is never applied to supernaturals like God N.<sup>20</sup> In pursuit of a decipherment for the old bearer, attention fell on another character mentioned by Landa called Pauahtun (*pawahtuun*)—a similarly fourfold deity aligned to the cardinal directions (Tozzer 1941:137-138; Coe 1973:14-15). Although the case for this reading was initially persuasive, it has fared

less well in recent years and we are now obliged to pursue alternatives.<sup>21</sup>

In 1994 David Stuart made a fresh proposal, drawing on inscriptions from the sites of Piedras Negras, Copan, and Xcalumkin.<sup>22</sup> The trail begins at Piedras Negras, Guatemala, where several rulers took the name of the carapace-backed God N (Kelley 1976:72) (Figure 27a, b). An example on a vessel excavated at the site makes the reading order especially clear—it begins with the Old Man's headscarf, followed by **K'AN-na** *k'an* and then **a-ku** *ahk* "turtle" (Houston et al. 1999:Fig. 7) (Figure 27c).

 $^{20}$  On page 74 of the Dresden Codex we find the spelling **ba-ka-bi** in a text dealing with world destruction. This is likely to be the first occasion we have in which *bakab* is used to refer to the sky-bearers (Taube 1988:145). See Houston et al. (2006:62-63) for further discussion of the *bakab* term.

<sup>21</sup> It was the presence of *tuun* "stone" in both *pawahtuun* and one of the most common glyphic names for God N that prompted the idea of a connection. This necessarily equated the *pawah* component with the knotted headscarf. Floyd Lounsbury noted that the words *paw* and *pawo'* mean "net bag" in Yukatek (Barrera Vásquez et al. 1980:635), while the netted design resembles the syllable sign **pa**—a potential phonetic cue (Coe 1973:15). The central element in the headscarf was subsequently interpreted as the lexeme **WAH** "maize bread" (Taube 1989b:36, 1992b:92)—suggesting a full reading of **pa**[**WAH**]-**TUN** *pawahtuun*. However, these readings are challenged by more recent phonetic evidence, as we will presently see.

<sup>22</sup> This suggestion came in a letter to Linda Schele dated November 14, 1994 (the text is now available in Stuart 2007a). The earliest published reference to the reading appears in Houston et al. 2000:104; see also Stuart 2005c:93 n. 32. It should be noted that the same head form has a different value when it appears as a verb in dedicatory phrases (Coe 1973:21; Stuart 1998:409-417).

Precisely the same variety of God N appears as part of another royal name, this time at faraway Copan (Figure 27d). There it carries an **i** prefix in a context where it can only be acting as a phonetic complement, establishing that the Old Man hieroglyph represents an *i*-initial word. For Stuart, these features provoked comparison with the Chontal Maya capital Hernán Cortés visited in 1524 called Ytzamkanac (*itzam k'an ahk* in its component parts and orthography appropriate to the Classic Period)—suggesting **ITZAM** as the reading for both the Old Man portrait glyph and the abbreviated form of his headscarf.<sup>23</sup>

In support of this, it may be significant that the colonial Ritual of the Bacabs manuscript talks of four Ytzam Kan (*itzam k'an*), each ascribed to a cardinal direction in standard world-quarter fashion (Roys 1965:64-65, 108-109). Shortened names are something of a feature of this document—in other sections the earth-crocodile Itzam Cab Ain is given as just Ytzam Cab (Roys 1965:49-50, 59-60, 99-100, 105-106). Coincidentally or not, we know that the turtle name could be curtailed in just this way during Classic times, since one polychrome vessel, probably from the sixth century CE, shows God N captioned by the net headscarf atop a lone K'AN sign (Figure 27e).<sup>24</sup> Another version of the turtle name appears on a damaged panel—originally from Pomona—where it is prefixed with 4 chan "four" (Houston 1998:355) (Figure 27f).<sup>25</sup> This evidently refers to the sets of four God N turtles seen at Tikal and Mayapan.

Each form of God N had its own nominal hieroglyph, combining the Old Man or his headscarf with the particular object or animal concerned (Zimmermann 1956:164-165) (Figure 28). In general, there is a strong continuity between the Classic and Postclassic forms, although the variant that wears the "year" sign HAAB/HA'B takes a more active nominal role in later times, apparently referring to



**Figure 28.** Names of shell and opossum(?) versions of God N: (a) Dresden Codex page 41b, A1; (b) unprovenanced vessel (Coe and Kerr 1982:71).



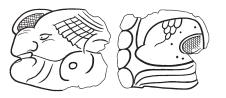


Figure 29. Name of the four God N cornerstones: (a) Pomona Panel 1 (after a photo by Carlos Pallan); (b) "Laxtunich" Panel, E1 (after Mayer 1995:Pl. 121); (c) Dresden Codex page 56b; (d) Cancuen shell glyphs (after Demarest et al. 2006:Fig. 9).

the collective identity of God Ns as year-bearers.<sup>26</sup> The version most closely associated with sky- and year-bearing responsibilities in the Classic period combines the Old Man with the signs 4 *chan* "four" and **TUUN** "stone(s)"—a reference to the four cornerstones of the universe (Figure 29a–c, see also Figures 6b, 9a, 9b).<sup>27</sup> The reading order is less than sure in these cases because the scribes could put numerals at the left-hand edge of a glyph for aesthetic reasons rather than strict word sequence, giving alternatives of

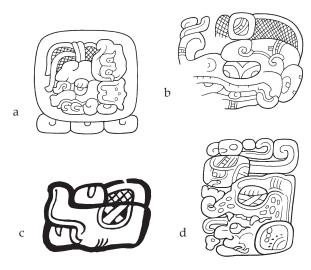
<sup>23</sup> If ITZAM were to be the correct value we might expect the i– prefix at Copan to be matched by a corresponding –ma suffix at some point. In fact, another Copan monument, Altar K, probably supplies this. There the head of the Old Man is sandwiched between two well-known ma signs: T74 and T142 (see the Thompson 1962 sign catalog). Although in normal circumstances this might signal two sound values (as if complementing a word like MAM), the ma syllabogram is a special case in that its full form is a trigraph that readily takes superimposition over its central portion. The most common spelling of this kind comes in the high title *kaloomte'*, where the upper and lower parts of the full ma sign are usually visible but denote only a single suffix. It is likely that the elongated space available on Altar K made superimposition the best space-filling tactic and the "doublema" really only renders ITZAM-ma.

<sup>24</sup> The lack of the usual *ahk* "turtle" here may be reflected in the absence of a carapace on the old god's back.

<sup>25</sup> This hieroglyph appears on a fragment now in the Museum Rietburg, Zurich, Switzerland (Mayer 1978:Pl. 53). David Stuart (2007b) has recently recognized that it joins two other panel fragments excavated at Pomona, Mexico (García Moll 2005:Pls. 6-10, 6-25a).

<sup>26</sup> In the Classic period this "year"-wearing form of God N serves as the personification of the number "5" (Figure 9c) and, more rarely, of the glyph HAAB/HA'B "year" itself. It has a close relationship to the TUUN "stone" form, best seen in substitutions in the Venus Tables of the Dresden Codex on pages 24, 47, and 48 (Kelley 1976:72, Fig. 28) (see Figure 9b). Although long interpreted as a phonetic alternation, it is more likely to be semantic in nature. On page 37 of the same manuscript, a depiction of the God N turtle is captioned by the HAAB/HA'B form, suggesting that it has a generic function applicable to all year-bearing varieties of this god.

<sup>27</sup> The turtle and cornerstone variants appear together on the so-called "Birth Vase," a four-sided vessel painted with scenes and accompanying texts (Taube 1994). Side II C1 refers to the birth of ITZAM[K'AN]AHK in some remote timeframe and shows an Old Man in appropriate "serpent birth" imagery. Side III A2 mentions the 4-ITZAM-TUUN, and Side VI shows the four old gods. Although damage to the scenes and texts makes further interpretation difficult, this is a rare glimpse of the deeper mythology surrounding these characters.



**Figure 30.** Names for the Sky and Earth Monsters: (a) Copan Hieroglyphic Stairway, Block 593; (b) Tikal Miscellaneous Text 9, B; (c) Dresden Codex page 50, D4; (d) unprovenanced vessel, E (after Hellmuth 1987a:Fig. 604).





Figure 31. Names of God D that conflate the Principal Bird Deity with the Old Man: (a) Dresden Codex page 27c; (b) Palenque Temple XIX Platform South, D7.

chan itzam tuun or itzam chan tuun for **4-ITZAM-TUUN**.<sup>28</sup> Help might come from a discovery at Cancuen, Guatemala (Demarest et al. 2006:764) (Figure 29d). Despite being disarticulated when found, two shell-fashioned glyphs could form a pair and indicate that the Old Man is to be read in first place once again.<sup>29</sup> We will leave the meaning of *itzam* to one side for the moment, returning to this key issue a little later.

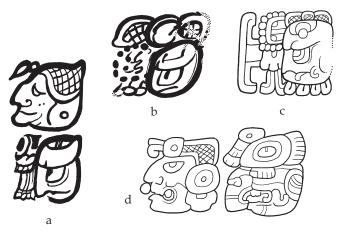
(2) Neither version of the Cosmic Monster appears in the inscriptions very often, and as a result our understanding of their names is not strong. The word for "crocodile" is represented in the script by the logograph AHIIN, a spelling surmised from the consistent presence of na suffixes and a partial phonetic substitution of a-hi (Stuart 2005c:64 n. 16). This beast is frequently portrayed with crossed bands in its eyes and therefore represents a conceptual, rather than naturalistic, category of animal (see Houston and Martin 2012). If ahiin is the base term in both, the celestial version is usually distinguished by its appended stars and deer ears, while the terrestrial one includes stone and maize motifs. Whether these parts denote words in combination or act as cues to quite different single readings remains unclear. Where either form is combined with the Old Man we might anticipate, based on the precedents above, that his name is to be read first. This would be consistent with our Colonial-era earth monster Itzam Cab Ain—part of Stuart's original argument for the ITZAM reading.

We have already noted the sky monster's substitution for the star glyph in the day name Lamat (Figure 30a), an alternation repeated where the beast serves as the patron for the month Yax within the Initial Series Introductory Glyph. It is tempting to read it simply as *ek'* "star" in both cases, but this is not a known Maya day name and the Lamat term seems to be an archaic one (Thompson 1950:77; Kaufman 1989:21). This is strongly supported by **ta** suffixes to two Classic-era examples of the star day-sign (Marc Zender, personal communication 2015). Given its substitutions, one might take *lamat* itself to be a viable moniker for the monster, but the values of signs inside day name cartouches do not necessarily match those outside. We can only be sure we have the sky monster's proper name in non-calendrical contexts

<sup>28</sup> Figure 29a employs the principle of superimposition: laying the head of God N over the **TUUN** sign so only its **ni** complement remains in sight. This may be motivated, at least in part, by the fact that their values are not sequential in the reading, something that could be misleadingly implied by other forms of combination such as infixation or conflation.

<sup>29</sup> The Old Man head in the shell text looks to be ITZAM, but there remains the possibility that it is a T'AB? verb absent its normal –yi suffix. The 4-TUUN-ni grouping is persuasive because it appears within the collective term for God N on another Cancuen text, this time a looted panel from the same era (Mayer 1995:Pl. 169). There we see the *chumlaj* "seating" of 4-ITZAM-TUUN (at M6–N6)—probably to be understood as the installation of lordly lieutenants as symbolic sky-bearers. It is possible that the shell text—originally attached to some apparel—refers to someone who has taken this same role. Interestingly, the seating ceremony on the panel has not one but two subjects, with the second (at M7) read 4-xi?-wa-TUUN-ni (see also Stuart 2007a). This refers to a separate set of bearers especially associated with the watery Underworld (see Martin 2012:72 n. 12).

(Figure 30b). A phonetic clue to its reading comes from a possessed example that lacks the headscarf but has a star in its eye that is prefixed by **ya**. The latter supplies both the possessive pronoun *y*- and the opening vowel of an *a*- initial word, implying that **AHIIN** "crocodile" forms the next part of the reading (Stuart 2005c:71, 88). If the iconography is to be read literally then **EK'** "star" and **CHIJ** "deer" would be active elements, yet where we get a complementary suffix it is **ma** (on Yaxchilan Hieroglyphic Stairway 3, Step IV, B1; Graham 1982:170). This either



**Figure 32.** Names of God D that separate the Principal Bird Deity and the Old Man: (a) unprovenanced vessel, zG2–3 (after photo K7727 by Justin Kerr); (b) unprovenanced vessel (after a photo by Raphael Tunesi); (c) Quirigua Stela C, B12; (d) unprovenanced mask, C4–D4 (after a sketch by David Stuart).

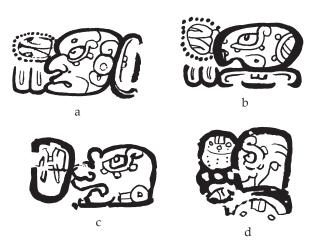


Figure 33. Names of God D in the Postclassic codices: (a) Dresden Codex page 7b, A2; (b) Dresden Codex page 15a, A2; (c) Madrid Codex page 80c, A2; (d) Madrid Codex page 110b, A2.

points to a quite different value or indicates the presence of an unrepresented **ITZAM**. In the sky-enthroned version from the late Dresden Codex the star and deer characteristics have fallen away, perhaps to render a plain *itzam ahiin* there (Figures 30c and 13c).

When it comes to the earthly variety, the clearest moniker appears within a series of deity names carved on an Early Classic vessel (Hellmuth 1987a:284) (Figure 30d). Here the crossbanded eye crocodile has the appropriate *yax* sign on its nose and the sprouting maize motif on its crown—the latter infixed with a personified, shining jewel to mark its precious qualities. The cheek of the monster features an inset stone sign, with the combination completed by the face of the Old Man in its jaws. It is possible that **TUUN** "stone" and **NAL** "maize ear/place" joined **AHIIN** in the Classic-period form, but the reading could equally be quite different.

(3) The name of God D presents an equally complex challenge. Historically, our understanding of it has relied on a page of the Dresden Codex, where God D appears as one of four deities who rotate in their patronage over the incoming New Year (Figure 31a). In Diego de Landa's account of closely matching sixteenth-century New Year ceremonies, the equivalent position in the sequence is taken by Yzamna (*itzamna*)—a character richly attested in Colonial sources as one of the most important native gods. This connection was first noted by the great Eduard Seler, and for well over a century now God D has been equated with this powerful figure (Seler [1887]1990:98-99; Tozzer 1941:145-146).

God D's hieroglyph, like his bodily representations, combines portraits of the Old Man and the Principal Bird Deity (Figure 31b). On those rare occasions where they are separated the aged fellow—whether in full or abbreviated form—appears in initial position followed by the head of the bird (Bassie-Sweet 2002:29-30, 2008:139) (Figure 32a–c). Such spellings allow us to identify similar pairings as names for God D, even where there is no accompanying illustration (Figure 32d). Examples from the Postclassic are always conflated, oscillating in their emphasis between man and bird with no effect on their meaning (Figure 33a, b). To the evidence for the Old Man as ITZAM we can add two spellings in the Madrid Codex: one where God D's tasseled diadem is replaced by a complementary i prefix and another where it is infixed with an unconventional complement of tzi (Stuart 1987a:16; Nikolai Grube, personal communication 1999; Boot 2008:19) (Figure 33c, d).

No less than three different suffixes appear with God D's name. In the earliest apparent instance, on the "Hauberg Stela,"

<sup>&</sup>lt;sup>30</sup> The same spelling of the name appears on the vessel K2026—where it appears in a passage together with one of the Hero Twins that can be translated as "Juun Ajaw said to God D." See Tunesi (2008) for the example illustrated as Figure 32b.

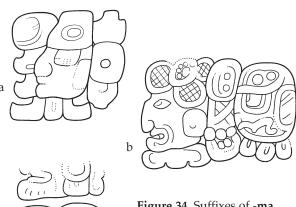


Figure 34. Suffixes of -ma and -na in the name of God D: (a) "Hauberg Stela," E1; (b) Xcalumkin Column 5, A2; (c) Xcalumkin Miscellaneous 5, U-W.

dating to the first stages of the Early Classic, we find ma (Figure 34a). However, this spelling is unique, and for the remainder of the Classic period if any suffix is present it is a form of the ji sign (Figures 31b and 32c). By the time we reach the Postclassic it has changed again, this time to na (Figure 33a, b, d). Any satisfactory reading of God D's name must explain this variation.

Taking them in reverse order, we would normally expect a **na** suffix to complement an -nending word (as it does in ahiin).31 However, since this would conflict with the itzamna indicated by the New Year records, Floyd Lounsbury (1984:176-177) suggested that it has a different function in this case and provides or reinforces a –na ending. Unfortunately, our poor understanding of the structure of *itzamna* stymies us at this point. Since the *–na* ending is not a known grammatical marker it is usually viewed as an independent word, with Yukatekan na "house" the long-favored option (Seler [1887]1990:98; Thompson 1970b:214). Although not expressed in Colonial Yukatek orthography, this term would originally have had a glottal spirant ending of -h (Ola Orie and Bricker 2000:304), in accord with the naah "house" term attested in Classic inscriptions.<sup>32</sup> The **ji** signs that suffix God D's name in the Classic are complements that mark a contrasting terminal velar spirant – *j* (Grube 2004b:74-77). Their use can be reconciled with itzamna only by positing an ancestral form of *itzamnaaj*, an interpretation that undermines the "house" hypothesis and leaves us in search of some other root and meaning for *naaj*. Tentatively, this form has been linked to "earspool" (recalling the appearance of this item on the head of the great bird and derived from Proto-Mayan \**na*′ "to know" [Kaufman 2003:214]) (Houston et al. 2006:236).<sup>33</sup> Lastly, we come to the early **ma** suffix, which can be explained by the two-part composition of God D's name. If the first reads **ITZAM** then **ma** would be attached to that word and appropriately signal its –*m* ending.

It seems logical to analyze the full compound as *itzam* (Old Man) plus *na/naaj* (Principal Bird Deity), but certain spellings make this very difficult to sustain. The **na** suffix first appears at the site of Xcalumkin, Mexico, around 750 CE, in an example noted by Stuart (Figure 34b). Here we see the Old Man and Principal Bird Deity separated once more, but this time they are appended by **na** and **ji** respectively. Any faint possibility that the **na** could be a complementary prefix to the bird is undermined by a second example from the same site, where it retains its attachment to the Old Man even though the name is divided between two glyph blocks (Figure 34c). Postclassic spellings of God D's name present a conundrum of their own. Featuring conflations between man and bird just like those of Classic times, it is hard to see why the **na** sign would be necessary if the head of the Principal Bird Deity already supplied that value. Indeed, if these contexts are taken at face value we would have to assume that the **na** plays no part in the bird's name,

<sup>31</sup> Lakandon Maya has *itzan* in place of *itzam*—as seen in the god names Itzan Noh K'u and Itzanal (Baer and Baer 1952; Bruce 1967:96)—but this is clearly a local shift and there is no evidence that this once had a wider distribution.

<sup>32</sup> Interestingly, there are some elaborated God D names in the Classic period prefixed by *naah*: **NAAH** on Quirigua Stela C (B12) (Figure 32c) and **YAX-NAAH-hi** on the Palenque Temple XIX Platform South (C7-D7, V1). *Naah* has two senses in the script, "house" and "first," which are represented by the same logograph (T4 in the Thompson system). With *yax* meaning "first/new/green," *yax naah* could be interpreted as "first house," or simply as an amplified form of "first" (Stuart 2005c:66). It is tempting to see in this term the origin of the enigmatic *-na* ending in *itzamna* (Martin 2006c, 2006d). There is little precedent for such a positional switch, but this did not prevent Barrera Vásquez et al. (1980:272) from exploring such a possibility, inspired by the honorific *namak* "cosa alta y soberana (something lofty and supreme)." The best glyphic analogy might be the behavior of the *aj* "person" term, which is often used as a suffix in the Early Classic but appears almost exclusively as a prefix in the Late Classic.

It is interesting, and potentially significant, that the *-na* also turns up in the name Zipacna. There is no known source for it within K'iche'—the language of the Popol Vuh—or any of the other highland languages, and this suggests that both the root and suffix are imports, though evidently from different languages.

<sup>33</sup> The best argument for this reading emerges from the codex-style vessel K1226 (Kerr 1989:68). There we see a standard God D name followed by a variant form of T511, a sign of unknown value (though see Martin 1996:225), suffixed by **ji**. Since **ji** is a regular suffix to God D's glyph it raises a suspicion that the role of T511 is to provide an expanded spelling of his name. The sign itself depicts an upward-pointing earspool—here very cursively drawn—precisely the orientation seen on the head of the Principal Bird Deity. Since the head of God D already includes the flowery diadem of the bird, this scenario requires a two-part nominal for the bird deity (Bassie-Sweet 2002:30 n. 10). Unless we entertain the possibility of scribal error or a redundant restatement of the name, this presents difficulties with reading T511 as **NAAJ**. An alternative explanation for T511's role could lie in its locative uses (as seen on Quirigua Stela C, A11b). Parenthetically, it was the misidentification of T511 as T512 **YE**'/**ye** on this vessel that led to the reading Itzam Yeh for the Principal Bird Deity (Freidel et al. 1993:70, 412).

which we would take to be a quite different word ending in -j.<sup>34</sup> Interestingly, certain early Yukatek Maya sources link Itzamna to a bird called Yax Cocah Mut (yax kokaj muut) (Roys 1933:153 n. 5; Thompson 1939:161; Tozzer 1941:145 n. 695; Thurber and Thurber 1959) and it is logical to now extend that tie to the Principal Bird Deity (Boot 2004:2). The original -j ending within this name sets up the possibility of a connection between literary accounts and the much earlier hieroglyphic form (Martin 2006c, 2006d).<sup>35</sup>

Given that the earliest and latest examples of God D's hieroglyphic name are separated by as much as a thousand years, it is perhaps unsurprising that it shows development over time. Differences could reflect new spelling strategies, innovations in its composition, or a combination of the two. An evolution in the basic nature of God D should not be discounted. Religious ideas can show remarkable stability, but they are also capable of change, especially in times of social transformation or rupture. The evidence to hand allows us to speculate on how this shift might have occurred. By around 750 the *itzam* component had acquired an additional *-na* suffix, an element whose significance is

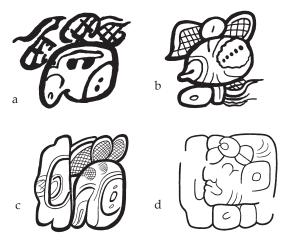


Figure 35. Names that combine the Old Man with a penis: (a) codex-style vessel, S3 (after photo K1560 by Justin Kerr); (b) Regal Bunny Pot, X2 (after photo K1398 by Justin Kerr); (c) Palenque Temple XIX Platform West, B3 (after photo by Jorge Pérez de Lara); d) Palenque Temple of the Sun, North Sanctuary Panel, B5 (after photo by Merle Greene Robertson).

unclear but could constitute an amplification of some kind. By colonial times, or perhaps even during the Postclassic, the name of the bird that originally followed it fell from use and *itzamna* alone came to denote God D. More data will be required before we can be sure whether this scenario, or some other, offers a proper resolution of the issue.

(4) We can turn now to the glyphic descriptions of God L and his Underworld cohort. There are no further leads on the reading of the Old Man to be had from this limited sample, but we can identify the partnering sign as the logograph **AAT** "penis" (Figure 35a). On K1398 this is supported by **ti**, the appropriate disharmonic complement that both confirms the –*t* ending and produces a lengthened vowel (Figure 35b). The examples we have only employ the isolated headscarf in their glyphs, but two spellings from a non-mythological context, the name of a human part-namesake, supply the expected alternation between the netted form and its elderly owner (Figure 35c, d). The application of this putative *itzam aat* to a trio of characters emphasizes that it

<sup>34</sup> In such a scenario, the **na** suffix—possibly meaning "first"—would reflect some enhancement to the Old Man's name that appears in the script only from c. 750 onwards. If the correspondence of the New Year patrons holds true, this would imply that the name of God D (that is, the Old Man plus the Principal Bird Deity) was originally a lengthier affair truncated to *itzamna* only in later times. It follows that if Itzamna was the name by which God D ultimately became known then this was derived in whole or in large part from that of the Old Man.

<sup>35</sup> The Vienna Dictionary describes a series of prominent native gods or "idols," including a high deity of incorporeal form from which all things flowed called both Hunab Ku and Colop u Uich Kin. The subsequent entry reads: "Idol which they say was of this: Hun Ytzamna. Yax Cocah Mut." Even though separated into two parts by a period, the text addresses them in the singular. Since Mut (*muut*) means "bird," the avian nature of Yax Cocah Mut has always been clear (Roys 1933:153 n. 5). Apart from its veneration in Yucatan, the seventeenth-century Itza worshiped this character under the name Ah Cocah Mut, and Avendaño saw its mask as part of a *yax che'el kab* "First Earth Tree" effigy at Noj Peten (Tayasal) in 1696 (Means 1917:135-136).

Thompson (1939:161) suggested that Yax Cocah Mut could be related to the "celestial birds" of the four world quarters. This was provoked by the mention of an Ek Cocah Mut (ek' kokaj muut), a "black" version of the bird in the Chilam Balam of Chumayel (Roys 1933:153). With black associated with the west, it raised the likelihood that there were five colored birds in the original scheme, with four assigned to the world quarters and Yax Cocah Mut at the center. It may well be relevant that the recently uncovered West Wall mural at San Bartolo shows four world trees with Principal Bird Deities perched in each, with a fifth bird in flight (Taube et al. 2010:52-56, Fig. 7).

The word Cocah (in current orthography *kokah*) is not otherwise attested in Yukatek, although this language does have *ko'koh* for the Trogon bird (Barrera Vásquez et al. 1980:330) and, more usefully, Tzeltal has *kok mut* for the Harpy Eagle, one of the world's largest birds of prey (Hunn 1977:142; Boot 2004:2; Harri Kettunen, personal communication 2006). Yukatek originally had the same velar-glottal spirant distinction (*j/h*) seen in Ch'olan, but Colonial sources only partially recorded it and in the case of terminal spirant endings they transcribed the velar form as –*h*, while omitting the glottal ending (see Ola Orie and Bricker 2000:304; Marc Zender, personal communication 2006). This means that sixteenth-century *kokah* is more properly rendered as *kokaj*. We cannot yet be sure that this word equates to the name of the Principal Bird Deity and its –*j* ending, although it is noteworthy that one of the rare textual references to the bird by itself includes a *yax* prefix (Palenque Temple of the Inscriptions West Panel at M7). A form such as ITZAM[KOKAAJ]-ji *itzam kokaaj* would be possible for God D, with the later insertion seen at Xcalumkin making it *itzamna kokaaj*, while the bird in isolation could be *yax kokaaj* (Martin 2006c, 2006d). These reconstructions remain wholly conjectural and Footnote 52 cites other data that might be relevant to the reading issue.

Erik Boot (2008:17-19) has developed similar but different readings for this complex, with God D as the base unit of analysis and the Principal Bird Deity as his avian manifestation. As further elaborated in this study, I see the bird as intrinsic to the composite identity of God D, a figure that, following Bassie-Sweet, equally depends on the inclusion of the Old Man/God N.

behaves more like a title, or group designation, than a personal name, differing from the cases examined thus far. We can only speculate about its significance, although the libidinous nature of Rilaj Mam, a contemporary deity of the Tz'utujil Maya associated with the Underworld, may be relevant (e.g., Tarn and Prechtel 1997:283; Christenson 2001:178), or instead a deliberately coarse or mocking association. Like God L, the Paddlers have personal names of their own, although their portraits, which are always gnarled and aged, could betray a similar underlying identification with the Old Man.<sup>36</sup>

## Discussion

The foregoing survey highlights the involvement of the Old Man in a series of key cosmological contexts. To describe a pattern is one thing, to explain it quite another of course, and we are left with a number of pressing questions regarding both the sense behind these bodily conflations and his particular contribution to them. Although the full sweep of these topics, which ultimately reflect on the nature of Maya divinity itself, can only be touched upon lightly here, it is possible to isolate the main problems and explore certain interpretations.<sup>37</sup>

Religions populated by a range of suprahuman beings or deities—which is to say polytheistic ones—come in a number of hues. Even the most cursory of examinations reveals how much the notion of a "god" differs from one tradition to the next. In some, gods are discrete entities with relatively stable identities, while in others they have far more amorphous characters, readily adopting different names and guises, their boundaries sometimes so permeable that one can merge with another. Even within the same tradition we usually find different classes of supernatural being, each with their own qualities, capabilities, and spheres of action. By definition, such systems divide divine agency among a series of actors.

Yet faced with a multitude that can sometimes number in the thousands, they often develop organizing principles by which deities are ranked, grouped, or equated. Polytheistic schemes commonly feature high gods of distinctive powers—some of a remote and intangible nature, others styled as rulers or patriarchs on human models. At its most extreme, their relatedness can amount to a form of "pantheism," in which a seeming host of gods are no more than different aspects or manifestations of a single divine being or essence. A more nuanced version combines singular and plural perspectives, in which many gods contribute to a spiritual whole. If we can gain some understanding of the Old Man and the meaning of his merged forms we might cast some useful light on where Maya beliefs lay on this spectrum.

## The Old Man and Theosynthesis

Our first challenge comes in comprehending the Old Man's varied appearances and how they work to define his wider role in the Maya universe. This study has used "combination," "fusion," "union," and their synonyms to describe the engagement of bodies and motifs in pictorial form, without as yet addressing their theological sense. What does it mean to merge the body of one supernatural entity with that of another, and what does this tell us about the production of divine identity among the Maya? More specifically, do the cases at hand (a) constitute differing manifestations of a singular Old Man, (b) signal his confluence with genuinely distinct beings, objects, and materials, or (c) work to specify some quality shared by a group of such entities?

Deity combination, often attested in the sequencing or joining of names as well as in fused representations, occurs in a number of religions worldwide, where it creates especially intimate relations between two, three, or more separate beings. Although its precise significance varies from case to case, it always expresses ways in which one supernatural is related, qualified, or expanded by another. In pooling their respective identities some combinations emerge as singular entities different from the sum of their parts (Hornung 1982:97; Porter 2000b:235-239). Egyptologists, who deal with perhaps the largest inventory of such forms, refer to the phenomenon as "syncretism." This would be a problematic usage for us to adopt, given the more dominant role of this term elsewhere to describe the assimilation of religious ideas from different cultures. Instead a neologism, "theosynthesis," better suits our purpose (Martin 2007b). We can define this rather broadly, without pre-judging its significance, as the pictorial convergence of a deity with some other deity, creature, object, or material. As such, it is descriptive rather

than analytical in purpose.

Prominent examples from ancient Egypt include those in which the sun deity Re is fused with Amun to produce Amon-Re or with Horus to produce Re-Harakhte.<sup>38</sup> Here the presence of Re is usually signaled by a solar disk, worn in the form of a crest by these other deities. Accompanying inscriptions sometimes allude to the concept of "inhabiting," in which each god has taken up residence in the body of the other (Bonnet [1939]1999).<sup>39</sup> The resulting unions can also be understood to function rather like chemical compounds in blending particular deities to achieve particular divine effects (Hornung 1982:97). This need not imply an equivalent status. Indeed, through name order and visual precedence they often encode clear hierarchies (Baines 2000:36).40 Not all cases of theosynthesis in Egyptian religious art signify the union of separate gods. For example, the crested disk of Re is also used to identify his different manifestations, as in the case of the scarab-beetle Khepri. Representations of this character, like others in this iconographic tradition, roam freely between the zoomorphic and the anthropomorphic in different contexts with no effect on their meaning—so that Khepri visualized as a whole scarab is fully equivalent to that of a scarab-headed humanoid. Variant and combined forms of Re are alike in the sense that they express particular aspects of solar identity, often associated with specific stages in the sun's passage across the sky. Thus, for example, Khepri is associated with dawn, Re-Harakhte with midday, and another manifestation, Atum, with sunset.41

Indic Hinduism offers another rich vein of theosynthetic forms, which expresses unities between particular divine beings or illuminates otherwise hidden personas. A leading example is that in which the primary gods Vishnu and Shiva are merged to form Harihara.<sup>42</sup> The dualistic nature of this entity is made explicit by a bilateral representation that is half Vishnu and half Shiva, highlighted by their contrasting dark and light skin colors. 43 This union gained particular popularity among the Khmer of Southeast Asia, where it worked to combine alternative conceptions of royal sovereignty and promoted a political as much as a religious agenda (Lavy 2003). Pictorial unions also characterize the dashavatara, the different avatars assumed by Vishnu in his ten incarnations on earth. Here too representations take human or animal form as aesthetic choices rather than as shifts in significance. Thus the second avatar, the tortoise Kurma, is usually pictured as an anthropomorphic Vishnu emerging from the mouth or carapace of that creature, but it can also be represented as a whole tortoise wearing the god's crown or jewels. Similarly, the third avatar, the boar Varaha, is shown

as a boar-headed human with four arms, yet can equally be realized as the whole animal adorned with divine emblems. More rarely, both tortoise and boar appear unmarked, their significance as manifestations of Vishnu read solely from their context.

Very similar strategies appear among some of the Maya's neighbors in Mesoamerica, the cultures of Postclassic Central Mexico. There we have relatively abundant original sources but, even more significantly for our purposes, descriptions of their meaning made by the Spanish, who took a close interest in the religious philosophy they were in the process of eradicating. Deities in this tradition had discrete identities, yet these were not confined to a single name or representation and often adopted different appearances and appellatives depending on their role. Additive processes are also apparent, seen in both name combinations and depictions in which diagnostic body parts, costumes, or emblems were transplanted or merged (e.g., Seler [1905]1993:236-239; López Austin 1993:149-151, 1997:22-26).44

These are individual gods with strong personalities, but their individuality was not permanent. There is no contradiction in that. The gods merged or divided themselves, and in each union, or in each one of the divided parts, they acquire a new personality. (López Austin 1993:146)

<sup>38</sup> The switch in vocalization between Amun and Amon in this context is demonstrated by Greek transcriptions; see Baines 2000:32 n. 47.

<sup>39</sup> Hans Bonnet ([1939]1999:189) describes it thus: "...[S]yncretistic formulas should be understood in terms of "inhabiting." Just as any god can take up abode in a fetish or in an animal, or even in the king, so he can inhabit the body of another deity. The formula Amon-Re does not signify that Amun is the same as Re or that one god has merged into the other. It simply observes that Re is in Amun."

<sup>40</sup>Though not matched in visual compounds, name sequences could function so that one deity worked to qualify or determine the character of another to which it was appended (Kurth 1977, cited in Baines 2000:34). The relationship between identity and role is blurred as a result:

It is as if the process of personification occurs in reverse: instead of a powerful concept becoming a deity, a deity is reduced from being a full "person" to being a concept or designator of a quality. (Baines 2000:35)

<sup>41</sup> See Assmann 1995 for a major synthesis of Egyptian solar theology.

<sup>42</sup> Hari and Hara are alternate names for Vishnu and Shiva respectively. Their union was also known as Shankaranarayana, where Shankara refers to Shiva and Narayana to Vishnu.

<sup>43</sup> It should be noted that not all sacred unions in Hinduism receive a theosynthetic treatment. When Shiva and Vishnu are combined with the god Brahma to form the Trimurti, a concept of divine unity, they are shown as three separate beings.

<sup>44</sup> "This interplay of changes, attributes, fusions, and separations does have its own codes. One is iconographic. Specific garments and attributes in the portraits place the gods at a given moment of power, at one point on their path... The gods cross levels, characterizing the different regions of the cosmos in a myriad of functions; but they are still the same gods" (López Austin 1993:150-151).

<sup>&</sup>lt;sup>36</sup> Copan Stela 2 calls the Paddlers the *mam k'uh* "ancestral gods," employing the **MAM** "grandfather/ancestor" sign first identified by David Stuart ([2000]2007). Their aged countenance may equally stem from this sign (Martin 2014).

<sup>&</sup>lt;sup>37</sup> A key disagreement on the topic of Maya divinity comes between those identifying a "pantheon" of discrete gods, in the tradition of Schellhas, and those perceiving embodied natural forces and deified ancestors, in which a shift to truly anthropomorphic gods only took place during the Postclassic era and under foreign influence (Proskouriakoff 1978; Marcus 1978:180, 1992:270-271; Baudez 2002a). Evidence for strong historical continuity and distinct divinities came with the decipherment of glyphic **K'UH**, whose descendent forms of *k'u* and *ch'u* were universally translated as "dios" by the early Spanish lexicographers (Ringle 1988; Houston and Stuart 1996; Stuart in Stuart et al. 1999:41; Prager 2013). However, since not all suprahuman characters are labeled as *k'uh* in Maya writing, "true" gods are distinguished from a range of other categories and types.

This hybridity had a range of purposes and effects, including the representation of natural phenomena. Thus when the sun god Tonatiuh disappears at sunset he has the face of the rain god Tlaloc to symbolize the watery Underworld into which he is descending (López Austin 1993:150). In this way motifs were spread beyond that of the core deity with which they are most closely associated. In a telling assessment, Alfredo López Austin (1997:23-26) discerned four qualities to the substance from which the gods were fashioned: it could be divided, it could return to its origin, its components could be separated, and it could be mixed to produce new divine forms.

When it comes to theosynthesis among the Maya, the cases involving the Old Man are far from unique. The phenomenon has been noted by a number of specialists over the years (e.g., Stuart 1984:17; Taube 1992b:148-149) without attracting systematic investigation. We see it, for example, in the triple conflation of Chahk, K'awiil, and Yopaat—normally distinct rain and lightning gods—to form a composite storm deity (Kerr 1990:286 [K2772]). Since these characters appear elsewhere as individuals working together, their pictorial union likely goes beyond the known affinities between these agents of tempest to denote concerted action. Fusion is especially prevalent among divine beings associated with the mythology of corn and the agricultural cycle, the various combinations of the Maize God, Principal Bird Deity, and K'awiil, which regularly interchange diagnostic features. For example, we see the Principal Bird Deity with its head replaced by that of K'awiil (e.g., Schmidt 2007:Fig. 20) or by that of the Maize God (e.g., Métropoles Mayas 1993:No. 43). More often, these combinations are abbreviated, in the first case to just an axe or flaming torch inset in the bird's forehead and in the second to a tonsured hairstyle. Amalgamations between the Maize God and K'awiil are especially common, with the visual precedence given to one or the other varying from example to example. Again, the purpose of theosynthesis could well lie in bringing individual agents to bear on a common theme or activity—with this last union especially associated with lightning-empowered germination and sprouting in the Underworld (Martin 2006a:179).

Transposable to a degree unusual even by the plastic standards of Maya art, ancient believers plainly did not associate these conceptual unions with any set form. As we have seen, representations show little



Figure 36. The Old Man on the back of the Principal Bird Deity: (above) lid of an unprovenanced vessel (photo K2131 © Justin Kerr); (facing page) the vessel with lid (photo © Denver Art Museum; Denver Art Museum Collection: Purchased in honor of Jan and Frederick Mayer with funds from 2001 Collectors' Choice, 1998.34A-B).

regard for the visual priority of their components, a crocodile wearing a net headscarf serving just as well as its inverse, a full-bodied old deity sporting a crocodile headdress, or for that matter the same character set within the throat of the beast. What mattered was not the specific configuration but the inclusion of a group of motifs, each the visualization of a nominal component. Theosynthetic compounds have much in common with the graphic potential of hieroglyphs, which in like manner insert and merge one element with another. This, in turn, could lead us to a textual understanding of divine portraits as a form of embodied nomenclature, in which images are not so much portraits of the gods as they are representations of their names.

While their visualizations may be variable, the nominal



<sup>&</sup>lt;sup>45</sup> For many aspects of Maya hieroglyphs as corporeal embodiments see Houston 2014:102-123.

sequences describing these combined entities follow a fixed order. These could be simple compound nouns, but in many Mayan grammatical forms the final position is taken by a head noun—making ahk "turtle" in itzam k'an ahk and tuun "stone" in itzam chan tuun their respective foci. Here preceding terms are attributives that modify or qualify the head noun. Adjectives are obvious attributives but other nouns serve the function just as well, with many words in Mayan languages falling into both grammatical categories. If itzam denotes a quality here, then the ahk and tuun would share a certain common itzam-ness. Yet attributives are not restricted to expressing a quality and can also specify a category or class to which the head noun belongs (Kerry Hull, personal communication 2010). This would make for a different emphasis in which these particular versions of ahk and tuun are members or types of itzam. Since any of these readings is possible, syntax alone cannot narrow the question of meaning.

Yet we might draw a lesson from an instance where we understand not only a composite name and its depiction but also something of the theological sense behind them. Some images of the Maize God show "wood" markings emblazoned on his skin and cacao pods sprouting from his limbs. An accompanying caption calls this figure the ixiim te', the "Maize (God) Tree." Wider iconographic analysis indicates that this represents a stage in the corn deity's progress through the Underworld and a metaphor for the germination of fruiting plants (Martin 2006a, 2012). The head noun *te'*—which commonly appears in plant names or objects made from wood—is here a form or vehicle, while the attributive ixiim denotes its inner vivifying persona. This tree is not simply like the corn deity in a qualitative sense, but constitutes a transfiguration of the god specific to a particular time and place. If we were to see itzam chan tuun as broadly analogous in structure, we could interpret "stone" as the material form assumed or inhabited by the Old Man in a given cosmic context. The appearance of his name and image would, in this scenario, denote an inherent identity—functioning much as the solar disk of Re does in representations of Khepri or the portrait and emblems of Vishnu do in Kurma.

We know that pictorial unions can signify specific properties or material qualities without contributing a nominal component. The Principal Bird Deity is already an amalgam of this kind, with its square god-eyes and mirror markings drawn from a separate personification of luster and brilliance nicknamed the "Shiner." The diagnostic features of this character are combined with other reflective or bright beings, most especially the sun god K'inich Ajaw. Although the Shiner can appear in an isolated anthropomorphic form and bears its own name, it shows no

sign of being a mythic actor in its own right.<sup>46</sup>

Among all the depictions of God D one stands out for the emphasis it puts on the individuality of its components. The lid of an Early Classic blackware dish shows a diminutive but full-bodied Old Man seated on a "sun" sign while riding on the back of a Principal Bird Deity, the artist having produced the sculptural equivalent of a "separated-out" glyphic spelling (Figure 36). The man wears the bird's medallion, signaling their combination, yet the more telling point is the effort that has been put into their differentiation. Should we take this as evidence for their separate existence? In order to fully demonstrate the autonomy of any given component one would need to show not only that it is capable of separate representation and bears its own name, but that it can act independently outside its combined forms. There are certainly instances where the Principal Bird Deity or one of the Cosmic Monsters, for example, are mentioned without displaying any discernible visual or nominal link to the Old Man.<sup>47</sup> Yet it is hard to exclude the possibility that he nevertheless remains an innate presence within them.

To address this point we must take a closer look at the metaphysics of the God D and Principal Bird Deity connection, and at a problem that predates the complications introduced by the Old Man. There is a blunt distinction between God D as the supreme ruler of the sky to which the Hero Twins, among other gods, pay homage (Coe 1989:174-175, Fig. 19-21) and the Principal Bird Deity as the target of a violent assault by those same brothers (Coe 1989:169-172, Fig. 10-14). This last event is alluded to on Preclassic monuments at Izapa, but its first explicit appearance is on a modeled twin-cylinder blackware vessel from the Early Classic, where one brother is shown luring the bird while the other levels a blowgun at him (Coe

<sup>46</sup> Although it resembles and occasionally merges with the head form for K'UH "god" this is a distinct form first identified by Stuart (1988:201-203). The Shiner is a personified attribute of divinity conceived in terms of the reflective quality found in polished stones (Saturno et al. 2005:38-41; Stuart, personal communication 2007; Taube 2007; Houston 2014:92-96). In early representations of the Principal Bird Deity we see the face of the Shiner set into its breast (see Parsons 1983:152), although in later ones its diagnostic mirror designs are more comprehensively combined with the bird's body. These mark it as bright, shiny, and jade-like in ways that closely parallel the description of its partially descendent form, Vucub Caquix of the Popol Vuh (Martin 2007a). It plays a similar role among other beasts presented in conceptual rather than naturalistic form—including sharks, toads, and eagles—which could express a perceived affinity between a reflective glow and the sheen of wet skin and feathers, as well as the dazzling glare of the sun.

<sup>47</sup> A context in which visual ties to the Old Man are absent comes in the mythic episode from Palenque Temple XIX in which the sky monster is beheaded (Velázquez García 2002:447-448, 2006; Stuart 2005c:68-77). A possessed form of this creature's name later in the same text (Stuart 2005c:88) clearly omits the Old Man from the spelling, as noted earlier.



**Figure 37.** The complex relationship between God D and the Principal Bird Deity: (a) the plumed God D under fire from Juun Ajaw (after photo by Nicholas Hellmuth); (b) God D and the Principal Bird Deity together as separate beings (after photos by Michel Quenon and Coe and Houston 2015:Pl. 18).

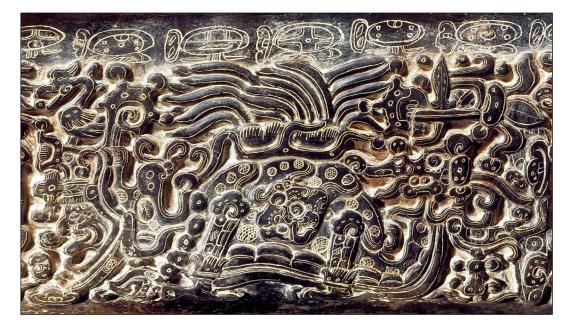
1989:Fig. 14).<sup>48</sup> At least three Late Classic vases depict this same event, one of which, K1226, bears a text dating the action to the day 1 Ajaw—clearly linked to the identity of the shooter Juun Ajaw—and captions it with *ehm(i) chan* "he descends (from the) sky" (Zender 2005:8-13).<sup>49</sup> Famously, this finds a close counterpart in the Popol Vuh, where Juun Ajaw (there called Hunahpu) shoots Vucub Caquix with a blowgun, thereafter robbing him of his jewels and ending his presumptuous claim to be the sun and moon (see Christenson 2003:97).

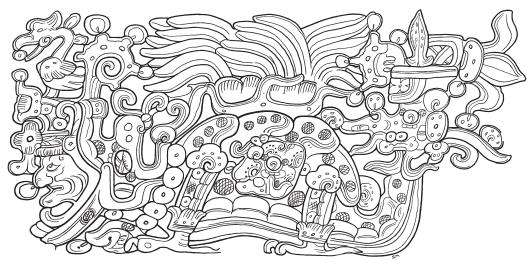
One little-examined Late Classic example supplies some important, if still enigmatic, information that must be taken into account. Only two views of this painted cylinder have been published to date, but enough can be seen to know that it bears another bird-hunting scene featuring the Hero Twins, who are identifiable by the tips of their blowguns (see Hellmuth 1987a:Figs. 578, 579). The scene on view features a tree with two images of the Principal Bird Deity and one of God D, the latter splendidly fitted out with feathered arms and tail. There is a cinematic quality here, an apparent sequence in which a bird first flies up into the tree, then perches in its branches, then emerges on the other side in new guise.<sup>50</sup> The pivotal detail, hard to see in the photo, is that one blowgun pokes into the scene and—doubtless in the hands of Juun Ajaw—fires its pellet not at the birds but at the old sky god, the only occasion he appears as the target of the shooting (Figure 37a). This narrative turn only raises more questions.

<sup>48</sup> This evidently relates to a section of the San Bartolo mural in which a duck-billed character speaks or sings to attract the attention of a flying Principal Bird Deity (Taube et al. 2010:48-52). On K8721, an unprovenanced Late Classic vessel, a matching scene is captioned with *ehm(i)* "he descends," the same term used in the shooting of the Principal Bird Deity on K1226 (Zender 2005:8-11; for discussion of the latter scene see Robicsek and Hales 1982:56-57). At San Bartolo the "luring" is directly adjacent to a damaged scene in which the Maize God appears to spear the creature (Saturno 2007), a deduction enhanced by a "dead" bird deity separately pictured hung on the back of a young lord who is probably Juun Ajaw (Taube et al. 2010:19, Fig. 12). If correctly understood, the defeat—or separate defeats—are the work of the Maize God and the Hero Twins (putative father and sons). This feature is paralleled in the defeat of God L, where separate but closely similar events of denuding and humiliation are performed by both the Hero Twins and the Maize God (Miller and Martin 2004:59-61). There is an implicit correspondence here between victories over the sky and netherworld and the humiliation or subjugation of enemies of the Maize God and his kin.

<sup>49</sup> One vessel, K4243, identifies the falling Principal Bird Deity with his anticipated name glyph, but on K1226 the same scene is captioned with the name of God D. This points to an important equivalence between the two entities, of which we are about to see more.

 $^{50}$  Nicholas Hellmuth (1987a:255-262, 364-367) includes this scene in his interpretation of a sequence in which God D is transformed into the Principal Bird Deity. However, the blowgunning detail favors, if anything, a transition in the opposite direction.





**Figure 38.** The Old Man combined with multiple supernatural beings: detail from rollout of unprovenanced vessel (photo K6626 © Justin Kerr) and drawing of detail.

Does the pellet's strike reveal the bird's "true" self, demonstrating that the difference between the two is merely one of appearance? Or is it that the shooting and resulting "descent" in some manner invokes or realizes the Old Man, elaborating the Principal Bird Deity into God D?<sup>51</sup> The plot point that takes us from prey to preeminence may be a simple one, but it currently eludes us.<sup>52</sup>

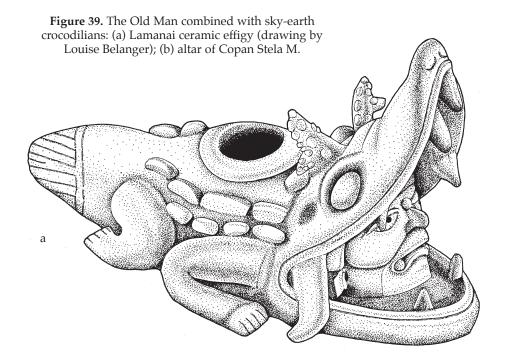
We could suppose that each form belongs to its own temporality, with bird and human divided by this decisive act of violence. However, we have other scenes in which God D and the Principal Bird Deity share the same space and time, where no beforeand-after sequence seems feasible (Hellmuth 1987a:Fig. 553), including one vase that shows them jointly enthroned as they preside over supplicant deities (Boot 2008:Fig. 1a; Coe and Houston 2015:Pl. 18) (Figure 37b). Such images oblige us to accept that the bird

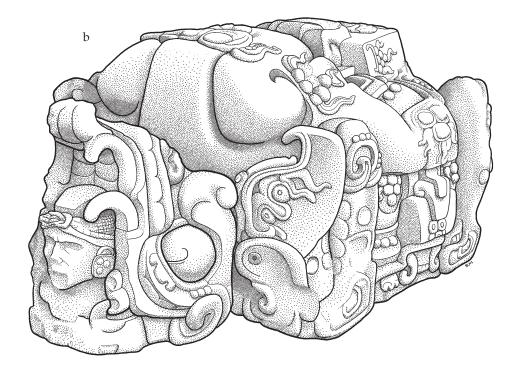
can exist independently of its overt hybridization with the Old Man—which is to say, that the two entities can be simultaneously separate and joined. Deeply at odds with the natural world, this would in no way violate a supernatural one typified by malleable divine essences untethered to corporeal forms, in which singularity and multiplicity coexist with ease.

A more extreme example of theosynthesis than those encountered so far offers further clues to the coexistence and mixing of Maya divinity. A carved vessel designated as K6626 in the Kerr Archive, shows the Old Man within a fabulous merging of some six or more supernaturals, each contributing body parts to a single chimera (Figure 38). We can discern elements belonging to the piscine deity GI, the Principal Bird Deity, the Wind deity, and the Water Lily Serpent, but the image is dominated by that of a great crocodile combining several features of the earthly beast with one, the Quadripartite Badge, that normally distinguishes the sky-borne version.

<sup>51</sup> The Preclassic Principal Bird Deities at Izapa are fusions with another divine being, whose face appears in their open jaws in most cases. Though not overtly aged, this character is likely to be an early equivalent of the Old Man (Martin 2007a).

<sup>52</sup> There is an important relationship here to the two scenes on vessel K7821. One is the aforementioned luring of the bird by the duck-billed being, captioned with the *ehm(i)* "he descends" term and the 1 Ajaw date of the shooting (Zender 2005:11, Fig. 6). The other shows the same duck-billed character as a supplicant at the court of God D, where a text informs us that the "descent" he supervised thirteen years earlier was attended by the Hero Twins (Zender 2005:11-12, Figs. 7, 8). The name of the descending subject appears to be that of God D, but features a **ch'a** sign in place of the flowery diadem. This is hard to explain as an error or stylistic oddity and instead conceivably works as a phonetic complement to the name of the great bird.





Several terrestrial-style crocodiles include this brazier assemblage, and it is conceivable that it was a motif they could share.<sup>53</sup> More likely, however, its presence signals the kind of fusion we see in effigy vessels from the Late Postclassic period, such as one excavated at Lamanai, Belize (Figure 39a). Here the jaws open to reveal the Old Man's visage once more, but the monster's head and body present both (celestial) deer antlers and a (terrestrial) fishtail. An earlier version of this combination seems to be offered by starmarked crocodiles whose central trunks are formed from three personified stone masks, as we see on the altar to Copan Stela M (Figure 39b) and on a previously mentioned carved relief (Figure 6b). These same rocky masks make up the body of Quirigua Zoomorph P (Figure 15b), where they would appear to be a core attribute of the great earth monster.<sup>54</sup>

These crocodilian unions might symbolize a holistic concept of heavenand-earth, or even represent a primeval creature prior to some ancient separation (Martin 2008). In Central Mexican legend only half of the slain body of Tlalteotl was fashioned into the earth; the remainder was raised up into the sky (Garibay 1965:108; López Austin 1997:13-

<sup>53</sup> Terrestrial-style crocodiles that include the skeletal head and its Quadripartite Badge appear at Copan (Maudslay 1889-1902:1:Pl. 114a), Quirigua (Maudslay 1889-1902:2:Pl. 12b), Yaxchilan (Graham 1982:169), and Copan Altar of Stela M, to be discussed momentarily.

masks refer to the three "stones of creation," a cosmic "hearth" with strong celestial connections (Taube 1992b:37, 1998:432-446; Freidel et al. 1993:67). However, the generalized stone motifs on cosmic monsters such as Copan Altar 41 (Maudslay 1889-1902:1:Pl. 114a) and within the Temple of the Cross at Palenque (Maudslay 1889-1902:1:Pl. 68a), as well as the single personified mask seen on K6626, counter the idea that the number three has particular significance here.

16).<sup>55</sup> It was the violent division of this monster that produced the fabric of the current universe. Its reconfigured form made the mortal world possible, but it remained so unstable that the analogous efforts of cosmic bearers and arbors were necessary to keep it from collapsing.

The image on K6626 is hardly a canonical one—there is nothing else quite like it in the surviving corpus—yet it must distill a meaningful religious truth. Should we read it as a concentration of power in which many gods contribute to a fundamental "oneness" of the spiritual world? Or is the Old Man to be seen as hierarchically salient and the whole form as his metaphorical body, each part composed of a lower-order being? However it should be interpreted, this is plainly a divine abstraction rather than a phantasm imagined to tramp the Maya cosmos.

To summarize, fused forms of the kind in which we see the Old Man have wide currency among polytheistic religions, including elsewhere in Mesoamerica. This representational strategy, here called theosynthesis, has no fixed meaning but can fulfill any of our three interpretive options—combinations, manifestations, or qualities—and, indeed, can serve more than one role even within the same tradition. What can be said is that the presence of the Old Man in these compounds animates them with a distinctive persona and that each serves to define a different quadrant, plane, or zone of the cosmos.

## **Sorcerer and Creator**

We can go no further without addressing what the Old Man himself might signify. A figure that pervades so many universal domains clearly embodies a profound concept, and we must ask why agedness was the most appropriate way of expressing it. Unlike other Maya gods, the wrinkled skin of the Old Man normally bears no special markings attesting to its otherworldly surface—his flesh, if not mortal, at least resembles our own. Likewise, he squints at us with small, human eyes, not the oversized optics that equip so many of his fellow deities. He carries no tokens of office and wears no royal regalia; he is neither a king nor a model for kingship. The sole mark of his magnitude is his manifest age, with its implied benedictions of experience, knowledge, and wisdom. This much makes him a sage, certainly, but Mesoamericans saw even greater gifts to long life: the mystical powers of the diviner and sorcerer. Such powers are wryly self-evident in the contrast between the prodigious strength of the heavenly bearers and their withered physiques. It is not muscle, but magic, that keeps the sky aloft.

For Mesoamericans, the ultimate act of sorcery was the creation of the universe, and their founding gods are typically a male-female pair of elderly magicians. Since cosmogenesis

was an event of significant antiquity, this in itself required that its instigators be very old. Their marital union simultaneously evokes the mysterious fruitfulness of the sex act and the idea—a recurring one across the region—that neither man nor woman are truly complete in themselves, that only their joining produces a "whole" person.

Evidence for these figures in the Maya area comes in ethnographic accounts from the southern highlands of the sixteenth century. Las Casas (1909:619), working in an unspecified part of the Verapaz region, was told that the world was created by the marital pair Xtçamna and Xchel, clear counterparts to the gods Itzamna and Ix Chel attested in northern Yucatan. <sup>56</sup> Moreover, Zuñiga and Morán, authors who conducted separate studies among the Pogomam Maya around the same time, record the name of the founding deity as a combined Ixchelltzam and Xchelitzam respectively (Miles 1957:748). The male form survived into modern times among the lowland Lakandon Maya of Mexico, where Itzan Noh K'u "Itzan Great God" is associated with crocodiles (Bruce 1967:98), and among a Yukatekan-speaking community in southern Belize, where Itzam is said to be a creator deity and head of the native pantheon (Joyce et al. 1927:317; Thompson 1930:58).<sup>57</sup> There he is further described as one of four Mam "Grandfathers/Ancestors," but, significantly, also considered to be dual-sexed.

The idea of a creator couple, or a dualistic "Mother-Father," is found in Maya societies under a variety of other epithets (Nuñez de la Vega [1702]1988:131; Guiteras Holmes 1961:292; Holland 1963:113; Vogt 1976:16; also see discussion in Thompson 1970b:200-206). Among the Jakaltek Maya of the highlands it is striking that their "Old Father" and "Old Mother" bear calendar names equivalent to 9 Lamat and 9 Imix (La Farge and Byers 1931:114; Thompson 1970b:203). We have already encountered Lamat's connection to the sky monster, but Imix—which begins

<sup>55</sup> The Histoyre du Mechique tells us: "Y la apretaron tanto, que la hicieron partirse por la mitad, y del medio de las espaldas hicieron la tierra y la otra mitad la subieron al cielo, de lo cual los otros dioses quedaron muy corridos" (Garibay 1965:108). In its female form the monumental sculptures of Tlalteotl combine earthly and celestial motifs (Nicholson 1967a:82, 86-87). We also learn from the Histoyre du Mechique that Tlalteotl's original home was in the sky (Garibay 1965:108). If its dismemberment can be equated to that of Itzam Cab Ain (Martínez Hernández 1913:165-166), and this in turn relates to the aforementioned passage from Palenque Temple XIX (Velásquez García 2002:447, 2006; Stuart 2005c:68-77, 180), then it would explain why the creature in the latter is explicitly identified as the Cosmic Monster of the sky.

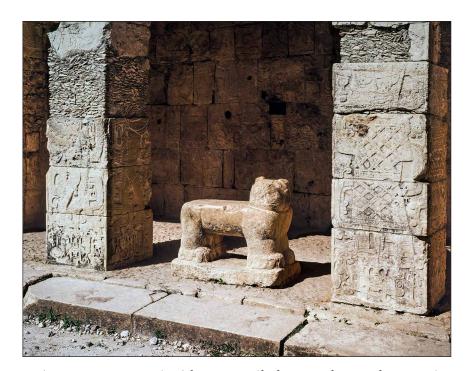
<sup>56</sup> Surviving sources from Yucatan disagree on the relationship between Itzamna and Ix Chel, but a text published in 1595 by Fray Jerónimo Román y Zamora identifies them as a married couple (although he transposes the sexes) (Thompson 1939:152).

<sup>57</sup> Itzam was cited in Mopan Maya prayers from southern Belize as recently as 1970, in the form "O Dios, santo hok, santo witz, santo luum, o itzam..." (Norman Hammond, personal communication 2015).

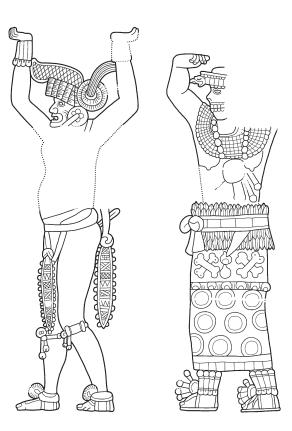
the twenty days of the Maya ritual calendar—corresponds to the Aztec day Cipactli. It is tempting to see in these forms a distant echo of the contrasting variants of the Cosmic Monster. The pairing of old gods is also very prominent in the K'iche' Popol Vuh, where the "shapers" of the universe, Xpiyacoc and Xmucane, are called "Patriarch" and "Midwife" (Tedlock 1996:217; Christenson 2003:62 nn. 23-26). Bassie-Sweet (1996:53, 2008:53-55, 125-130) dubs them the "creator grandparents" and, following suggestions that go back to the time of Brinton (1881:642), equates them with Itzamna and Ix Chel. 59

The creatrix Ix Chel corresponds to Goddess O in the Schellhas system, although hieroglyphic spellings make it clear that her name was formerly Chak Chel or "Great Rainbow" (Taube 1992b:99). This menacing old woman is a familiar one in Maya art, where she can display the ears, claws, and eye of a jaguar, a coiled snake for a headband, and a skirt decorated with crossed long bones and disembodied eyeballs. She appears in the roles of a midwife, child-minder, spinner, warrior, and most powerfully as a cosmic destroyer: joining the sky monster and rain deities in creating a world-ending deluge in the Dresden and Madrid codices (on page 74 and page 50 respectively) (Taube 1992b:99-105, 1994:657-658; Miller and Martin 2004:95-96).

A partnership between Goddess O and God N is suggested by reliefs in the Lower Temple of the Jaguars at Chichen Itza (Foster and Wren 1996) (Figure 40). This structure, dating to the Terminal Classic or Early Postclassic (c.800–1000 cE), features two squared columns whose faces are carved with a quadripartite arrangement of bearers in the



**Figure 40.** Lower Temple of the Jaguars, Chichen Itza, showing the squared columns carrying images of God N and Goddess O. Photo: Jorge Pérez de Lara.



**Figure 41.** The Old Man as God N paired with Goddess O: details from the columns of the Lower Temple of the Jaguars, Chichen Itza.

raised-arm pose. One column provides four varieties of God N while its companion shows four versions of Goddess O (Tozzer 1957:Figs. 195, 196, 615) (Figure 41).<sup>60</sup>

<sup>58</sup> The literal terms are *mamom* "He who has had Grandchildren" and *i'yom* "She who has had Grandchildren" (Christenson 2003:62 nn. 23-24).

<sup>59</sup> In her discussion of Maya creator gods, Bassie-Sweet joins Stuart in seeing God N and the Principal Bird Deity as "manifestations of the same god"— situating the combined God D at the top of a divine hierarchy (Bassie-Sweet 2002:25, 28, 2008:128-130; letter by David Stuart transcribed in Stuart 2007a). Initially, she posited that the head of the Principal Bird Deity was alone sufficient to spell Itzamnaah and that the head of God N had an honorific function, possibly to be read *mam* or *ama* "old man" (Bassie-Sweet 2002:30-31). More recently, she equates both God N and God D with Itzamnaaj, and the Principal Bird Deity with the "Itzamnaaj Bird" (Bassie-Sweet 2008:139).

<sup>60</sup> This multiple form of Goddess O/Ix Chel is uncommon but does appear on the "Birth Vase" (Taube 1994:657-658). The face of the goddess at Chichen Itza is unusual for its skeletal features, which may relate her to the Mexican earth goddess Cihuacoatl (Thompson 1950:83) and/or to the subterranean bearers of the Maya, the <code>xiiw(?)</code> chan tuun (see Footnote 29). The influence of Central Mexican ideas is strong at Chichen Itza and no clearer than in the appearance of Tezcatlipoca on other piers at the site (Thompson 1942).

Each supports not the sky but a fused turtle-mountain and its sprouting Maize God—the symbol of the fecund earth elsewhere depicted as the God N turtle. Lynn Foster and Linnea Wren (1996) were the first to identify this pair of bearers as cosmic progenitors, and it was subsequently argued that these scenes depict a key moment of world creation (Schele and Mathews 1998:215-218, Fig. 6.11).

The association between these two deities reaches back into the Classic proper, as seen on a fine red-background vase (Coe 1978:106-110; K501 in the Kerr catalogue) (Figure 42).61 Here God N takes the role of an artist, wearing a distinctive swept-back style of headscarf and holding a cut-shell paint pot in his hand (Figure 43a). The scroll that emerges from his nose signals his divine breath, while his three-spotted ear ornament and leafy headband link him to the watery, turtle aspect of God N as world center. He is juxtaposed with an image of Goddess O, who carries the brazier of the Quadripartite Badge in a sling across her back (Figure 43c). There it takes the place of an idol or infant not unrelated ideas for the Maya—and sets up a connection to the sky monster, a link enhanced by the crocodilian appearance of its supporting head. Unusually, both old gods show mirror devices on their bodies, imbuing them with the shining quality that marks positive, beneficent deities. Between them lies the mouth of a cave (Figure 43b). Within we see a man in a broad-brimmed hat and, just outside, a woman who faces away as if departing. Stephen Houston has persuasively interpreted this as an episode ir the genesis of humankind, with the creator couple presiding over the emergence of the first people from a primeval cave—a legend

<sup>61</sup> The base portions of this image have been heavily restored, in parts invented, and are therefore not iconographically reliable. For a photograph taken prior to this renovation effort see Hellmuth 1987a:Fig. 126. It is clear from this that the white fracture lines we see today are deceptive later additions in a number of cases (Justin Kerr, personal communication 2015).



**Figure 42.** The Old Man and Goddess O: detail from a partially restored unprovenanced vessel. Photo K501 © Justin Kerr.

with a rich history in Mesoamerica (Houston 2001:337; Houston et al. 2006:53).

A clear inference emerges from these disparate but related sources. If Goddess O's relationship to God N in Classic iconography parallels that of Ix Chel's to Itzam/Itzamna in the colonial and ethnographic sources, then we would have another reason to believe that the latter is the correct identity of the aged, netheadscarfed creator and bearer here dubbed the Old Man. The proposals in this study stem from other evidence, much of it iconographic, but Stuart's *itzam* reading plainly offers powerful synergies across time periods and the full expanse of the Maya domain, making connections to the rich lexical sources at our disposal.

The meaning of *itzam*, so far as it can be gleaned from ethnographic and linguistic data, would indeed be appropriate for a sorcerer-creator. In lowland languages *itz* is used to refer to liquids that form droplets—such as sap, milk, and sweat—and it appears as the ethereal, dew-like substance *yitz ka'anil* or "*itz* of the sky" invoked by contemporary ritualists in Yucatan (Sosa 1985:435, 438). In the



**Figure 43.** The Old Man, Goddess O, and the creation of humankind: (a) the Old Man; (b) cave with emerging people; (c) Goddess O (Chak Chel).

highlands of the south, *itz* is a widely distributed root for sorcery and the related realms of divination and curing. In many communities today an Aj Itz "He of *itz*" is a practitioner of the black arts who casts spells and curses to commission (Miles 1957:751). Structurally, there is some evidence in Yukatek that the suffix –*am* can serve as an agentive (Swadesh et al. 1970:34).<sup>62</sup> In this scenario *itzam* would be the person who embodies or manipulates *itz*, evidently some magical force or substance. In their review of the lexical evidence, Linda Schele and David Freidel (Freidel et al. 1993:50-51, 411-412) follow Alfredo Barrera Vásquez et al. (1980:272) in offering the sense of *itzam* as "shaman, magician, wizard."

## **Parallels in Central Mexico**

Universal creation in Postclassic Central Mexico was also described as the work of an elderly couple—known individually as Ometecuhtli and Omecihuatl and in their conjoined form as Ometeotl "Dual God." Literary texts refer to the varied identities these characters adopt depending on their particular generative roles (León-Portilla 1963:30-34, 84-99, 1999; Nicholson 1971:410-411). Thus, as the providers of life and sustenance the divine pair become Tonacatecuhtli and Tonacacihuatl—depicted on at least one occasion in an androgynous union (Codex Borgia page 61). In another guise the creators adopted stellar personalities, expressed as Citlallatonac and Citlalinicue, producers of the stars and Milky Way. Equally, the couple inhabited the Underworld in the fearsome, skeletalized forms of Mictlantecuhtli and Mictecacihuatl. Xiuhtecuhtli, the god of fire and time, was also equated with Ometeotl and at times addressed as "Mother of the Gods, Father of the Gods, the Old God" (Sahagún 1950-1982:Book 7:41, 88-89).

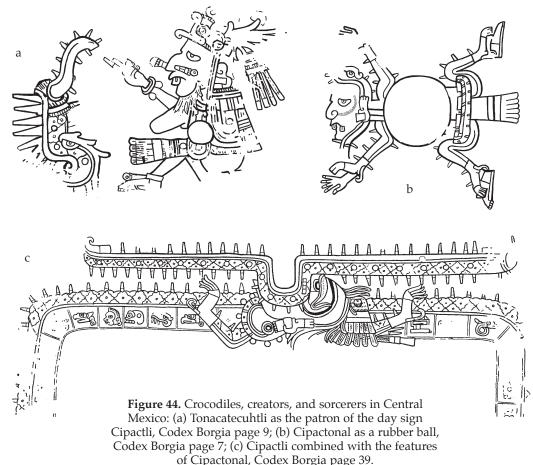
Significantly, Tonacatecuhtli had a special relationship with Cipactli, ruling as the earth monster's patron when it served as both a day name and that of a 13-day *trecena* period (Figure 44a). A character intimately related to this complex was Cipactonal (*cipac(tli)* 

+ tonal "day/heat/soul"), who in some tellings was the offspring of Tonacatecuhtli and Tonacacihuatl. A transitional figure between gods and humans, Cipactonal was an old sorcerer often identified by his crocodile headdress, bodysuit, or appended Cipactli name glyph, at other times recognized by the red line drawn around his eye and his unruly hair and beard (Figure 44b). These features are expressed in full theosynthetic style where Cipactonal is embodied as the great gaping crocodile in the Codex Borgia (Seler 1963:2:42; Taube 1989a:9) (Figure 44c). Cipactonal and his wife Oxomoco are said to be parents to the first humans and the inventors of the ritual calendar and divinatory arts (Robelo 1911:339-350; Garibay 1965:25, 110; Guilliem 1998:50; Boone 2007:24-26, 195). Soothsayers and sages, physicians and priests, both can be portraved with sacerdotal tobacco vessels on their backs (Figure 45). Rock carvings situated between Coatlan and Yauhtepec, Mexico (Figure 46), show the aged pair engaged in artistic production and divination, seated to either side of a cave entrance (Figure 47)—a composition uncannily close to the one on K501.64

- 62 Alfonso Lacadena (personal communication 2007) sees evidence for the —am agentive in glyphic texts from Ek' Balam in Yucatan, specifically in tz'i-ba-ma TUUN-ni tz'i[h]bam tuun "Painter Stone."
- <sup>63</sup> Michael Coe (1978:21) has compared God L to Mictlantecuhtli and suggested that they share parallel relationships to Itzamna and Ometeotl respectively.
- <sup>64</sup> The male is traditionally said to be reading a codex (Nowotny 1961:53, Fig. 9), although he wields the sharpened bone carried by other Central Mexican deities that elsewhere serves to energize or animate sacred objects (Boone 2007:183). The female holds a shell with which she casts maize grains in divination, seen more clearly in other portraits of her (Boone 2007:24, 27).

The scope of the Ometeotl complex was so extensive that Hermann Beyer (1910:116) argued that Aztec religion was essentially pantheistic, its host of deities "really many manifestations of only one god" (see also León-Portilla 1963:95-96 and López Austin 1993:147-149). The sources certainly emphasize the pervasive qualities of this dualistic entity, a phenomenon Miguel León-Portilla called its "multi-presence" (1963:93). The supreme deity could not, it seems, be truly separated from its creations and derivations, and through them engaged in an on-going maintenance of the universe in all its dimensions.

The focus on time, the carrying of the four successive stations of the year in a cardinal circuit, is another area in which the resonances between the Maya and the peoples of Central Mexico are strong. In the latter it is the four sons of Ometeotl each a version of the god Tezcatlipoca who established the cardinal directions as well as all the domains of the world, from the sky to the earth to the netherworld (León-Portilla 1963:33-36; Garibay 1965:23-25). This was equated to the division of the 260-day divinatory cycle into four quadrants, giving this universal geography an intrinsic temporal dimension—a notion that has been compared to the "space-time" of modern physics (Soustelle 1940:85).65 Cipactonal's relationship to the scheme is reflected in the aforementioned image from the Codex Borgia, where his splayed crocodile body depicts the earthly continent of Cipactli circumnavigated by all the other day signs (Boone 2007:197-199) (Figure 44c). A Maya semblant of this idea, dating to the Early Classic, could appear in a damaged stucco frieze at Copan (Fash 1991:84, Fig. 40). Clearer examples are found in Postclassic murals at the sites of Coba and Tancah, and on a small stone altar at Mayapan all of which show Maya day signs on the



bodies of crocodiles (Proskouriakoff 1962:Fig. 4e; Taube 1989a:4-9, Fig. 5).<sup>66</sup> At Coba its scaly form serves as a groundline in an explicit reference to Itzam Cab Ain. At Tancah the beast forms the oversized headdress of the Old Man, while at Mayapan it carries a

<sup>65</sup> The famed cosmogram of the Codex Féjérváry-Mayer pictures the quadripartite division of the 260-day cycle, with the creative act expressed as the bloody, four-way dismemberment of a single Tezcatlipoca. The flow of his blood converges at the center of the world, where Xiuhtecuhtli presides as the first of the nine "Lords of the Night," with the rest of the sequence distributed around the cardinal directions. This set of deities has long been equated to a cycle of nine daily patrons among the Maya (Thompson 1929). Kelley (1976:90) correlates the two sequences, matching Xiuhtecuhtli with the character dubbed G9—a version of the Old Man with the glyph for IHK'IN "night" atop his head.

<sup>66</sup> It has been suggested that the days of the Maya 260-day ritual calendar were seen as products of a bodily dismemberment, provoking comparison with the division of Tezcatlipoca in the Codex Féjérváry-Mayer (see Footnote 65). Early depictions show day signs that drip with blood, simplified in the Classic era to an enclosing cartouche of conventionalized blood which, when colored, is rendered a vivid red (Stuart 2005c:76; Houston et al. 2006:93, Figs. 2.36-2.38). The appearance of day signs on the bodies of crocodiles provoked the idea that it was the slaying of Itzam Cab Ain that gave rise to the ritual calendar (Houston et al. 2006:93). This has been similarly linked to a key mythic episode from the platform of Palenque Temple XIX, in which the starry sky-monster is beheaded and its blood spilled (Velásquez García 2002:447, 2006; Stuart 2005c:68-77). The emphasis there, significantly, is less on a body rent asunder than the sacrificial product of blood (Stuart 2005c:180). One might wonder if it is the materiality of blood itself that time is compared to, perhaps as a kind of vital force coursing through the universe, a focus also implied by the Codex Féjérváry-Mayer cosmogram.

now headless humanoid on its back—presumably another image of the aged one in the manner we last saw in Figure 36

The first attempt to link Maya and Central Mexican notions of a creator was made by Seler ([1887]1990:98). In the same paper in which he associated Itzamna with God D he pointed to similarities with Tonacatecuhtli, based on their shared roles as instigators of life, culture, and learning. Seler was an avowed comparativist and one of the first to conceive of Mesoamerica as an interactive whole—long before the region itself was so defined. There is much that distinguishes Mesoamerican religions, but there is also much that they held in common. Correspondences are not only the result of a shared heritage, which is to say concepts that can be traced across great temporal and geographic gulfs, but also of contact and cross-fertilization between living societies that took place throughout the Prehispanic era. The impact of Central Mexican ideas on Postclassic Yucatan, for example, is well known (e.g., Thompson 1942, 1957; Taube 1992b:120-143).67 The full antiquity of the old god complex in either region remains unclear, but the concept of creators that initiated time and space, and whose identities suffused the different layers and facets of the universe, seems to be rooted in both.68

<sup>67</sup> Among many examples of Postclassic Maya art produced under the stylistic influence of Central Mexico are the important murals at Santa Rita Corozal (Gann 1900:665-673). As described by Karl Taube (1989a:4, Fig. 2b), here we find the earth monster serving as the groundline for a group of deities, its gaping mouth closely resembling that of Cipactli depicted on page 39 of the Codex Borgia. At Santa Rita it is fused with attributes of the late form of God D—identified by a tall cylindrical headdress pierced by a sharpened bone (see Taube 1992b:34)—instead of the headscarfed Old Man seen in earlier times. Similarly, the crocodilian from pages 4 and 5 of the Dresden Codex displays the head of God D in its maw in place of the Old Man (Seler 1902-1923:4:650). Both examples are related to a wider shift in God D's symbolism during the Postclassic in which the tasseled diadem of the Principal Bird Deity, once ever-present, first declines and then disappears (in the Dresden Codex only 6 of 19 images bear it, and it is absent in all 76 portraits in the Madrid Codex). By now the tassel form is only present in his glyphic name, while the bird's head is only recognizable in the Dresden. This evolution of form may reflect conceptual changes that realigned God D's role in the late period, merging his identity more closely to that of the Old Man, perhaps under the influence of foreign deities such as Tonacatecuhtli.

<sup>68</sup> Elderly gods in other parts and eras of Mesoamerica present too large a topic to explore here, but nevertheless demonstrate an enduring, pan-regional interest in the symbolism of old age. They include the old men in turtle carapaces we see in Classic Zapotec and Postclassic Aztec art.

## The Many and the One

The "oneness" of the godly forms on K6626, with its mélange of otherwise unrelated divine identities, gives cause to wonder if Maya polytheism obscures some deeper underlying coherence. Holistic principles are strongly attested in ethnographic research from across Mesoamerica, where living traditions describe numerous supernatural actors, yet also express a belief in the sacred unity of all things (Monaghan 2000:26-27).

Studies of religion frequently come from a functionalist perspective that seeks to expose the underlying order to systems of belief. Yet religious traditions, modern as much as ancient, routinely encompass diffuse and overlapping ideas that can be hard to rationalize in this way. Indeed, the mysteries that give religions their otherworldly character seem in no small measure related to their inconsistencies, paradoxes, and contradictions, things which "make sense" only when we consider the wider purposes to which religious practice is put and how religious logic works on a cognitive level. At any one time traditions can hold alternative or competing interpretations—what might be called "concurrent theologies"

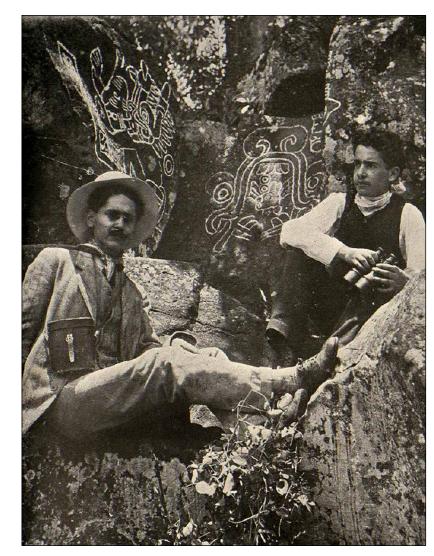


**Figure 45.** The old sorcerers Oxomoco and Cipactonal: (a) Codex Borgia page 60; (b) Codex Borbonicus page 21.

(Stephen Houston, personal communication 2007)—even in regard to fundamental questions about the nature of the divine. We must also keep in mind that religions are subject to ongoing social, cultural, and historical dynamics, and usually under the sway of political authorities for which they serve as a key tool of legitimation and control.

Polytheism and monotheism appear to be antithetical schemes, but neither seems entirely content with its lot, each feeling some gravitational pull toward the other. Monotheistic systems can incorporate a host of quasi- or semi-deities—one thinks here of the plethora of saints and angels in Roman Catholicism or of the *bodhisattvas* and *devas* of Mahayana Buddhism—perhaps because we perceive greater efficacy when specific functions are aligned with dedicated agents. What distinguishes monotheism from polytheism is not the number of supernatural agents in the system, but its more exclusive classification of "deity" (Porter 2000a:2). The attraction works the other way in polytheism, since the existence of multiple gods implies some common source to their divinity, an underlying power that is singular rather than plural. This leads to ideas of universality, if not fully formed in common practice, then as a topic of speculation at the more rarified level of theological discourse. There is, in sum, an inherent tension between division and unity in much religious thought. Within this the "one and the many" are not opposed but complementary formulations (Hornung 1982; Porter ed. 2000), each addressing a different facet and perception of an ineffable divine experience (Evans-Pritchard 1974:316).

The idea of some greater structure and cohesion to ancient Maya polytheism would be a far from new one since it was a major theme in the work of J. Eric S. Thompson (1939, 1970). His points of departure were lexical entries from Colonial Yucatan, especially those that describe a certain Hunab Ku (juunab k'uh) "One/Unique God," who was said to rule over, or in some sense encompass, all other native deities. The early Motul Dictionary, for example, speaks of "Hunab Ku: Only live and true god. He was the greatest of the gods of Yucatan" (Martínez Hernández 1929:404). Notably, the Relaciones de Yucatán (2:161) links this figure to Itzamna: "...they worshipped one god alone who had the name Hunab and Zamana." Although Maya informants could have contrived this singular divinity to please or appease their Christian interlocutors, the consistency of these references persuaded Thompson that they reflected a basic truth.<sup>69</sup> He took them as evidence for an underlying unitary character to Maya religion, in which all other gods were mere aspects of one encompassing entity.



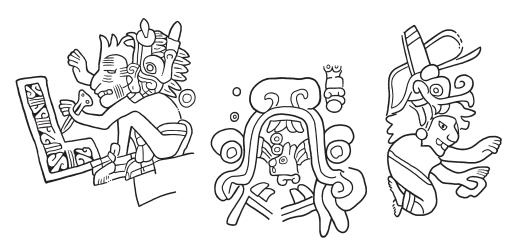
**Figure 46.** Photographers Juan E. Reyna and José Escalante Plancarte pose before the three carved boulders near Yauhtepec (from Robelo 1911:Pl. 4).

The conception of Itzam Na is, indeed, a majestic one. One realizes why the Maya rulers came at one time to consider him the only great god, for it rather looks as though the Maya of the Classic period had developed the cult of Itzam Na into something close to monotheism, with all other beings... [his] servants or his manifestations... (Thompson 1970b:233)

Like Seler before him, Thompson was impressed by the number of deities in colonial sources whose names include either Itzam or Itzamna (Seler [1887]1990:103; Thompson 1970:210).<sup>70</sup> Beginning

<sup>69</sup> The ethnographer Ralph Roys was one who suspected Christian influence (cited in Thompson 1970b:203).

<sup>70</sup> These include not only *itzam kab ain* and *itzam k'an*, as we have seen, but *itzamna itzamtzab*, *itzamnak'abul*, *itzamna k'awil*, *k'inich ajaw itzamna*, *k'in chak ajaw itzamna*, *itzamnat'ul chaak*, *itzam luk*, and *itzam pech* (e.g., Barrera Vásquez et al. 1980:272).



**Figure 47.** Cipactonal and Oxomoco flanking a cave mouth on a carved boulder near Yauhtepec (redrawn from Nowotny 1961:Fig. 9).

with Itzam Cab Ain, he argued that virtually every reptile in Maya religious art was an expression of this all-pervading deity—visualized in its highest, anthropomorphic form as God D (Thompson 1939:153-160). Later, using the thennewly uncovered Vienna Dictionary—where *itzam* is translated as "lagartos, como iguanas de tierra y agua [lizards, like land- and water-iguanas]"—he read *itzamna* as "Iguana House." The "House" element was taken to refer to a four-sided model of the universe based on a human dwelling, each of its planes defined by one of these cosmic saurians (Thompson 1970b:209-233).

Yet the Vienna Dictionary stands alone in its definition of *itzam*, and Barrera Vásquez et al. (1980:272) subsequently demonstrated that it is no more than a faulty derivation from Itzam Cab Ain—where the only reptilian component is *ain* (*ahiin*) "crocodile." The scheme was further undermined as later iconographers dissected Thompson's reptilian universe and found no holistic entity, only a range of distinct beings and motifs. As we now know, the affiliations of God D are not saurian but avian, a decisive blow to the model. The Colonial-era data on which so much of Thompson's case rested are today viewed either as a late phenomenon distorted by European perspectives or simply folded into the conception of God D as a king among gods. Since the 1980s almost all researchers have concentrated their efforts on the individuality of the deities first systematized by Schellhas at the end of the nineteenth century, a unitary vision for the ancient Maya having fallen first from favor and then from sight.<sup>71</sup>

Might the emerging evidence on the Old Man tempt us to reopen this question, posing him as a better candidate for the unitary entity referred to in the historical accounts? The similarities to descriptions of the Ometeotl concept of Central Mexico give reason to ask if Mesoamerican religions shared a belief in an all-compassing, aged creator. Yet if we are to remain within the evidence available to us the answer to this must be a negative one. The appearances of the Old Man in Maya art and writing are, if not entirely confined to the cases described, restricted in their range and give no grounds to believe that his identity underlies those of all deities in the system. There are, instead, a particular set of contexts in which he appears and plays a decisive role. These are concentrated in the elemental fabric of the universe, in ways not so very distant from the house

model suggested by Thompson. Even though that idea was based on a faulty reading, its central protagonist misidentified, and its scope overextended, an architectural analogy seems not entirely inappropriate.

It may be too late to know if those early colonial descriptions of a supreme being were attempts to disingenuously portray Maya belief as monotheistic in the face of enforced Christianization, or whether they capture a genuinely ancient, if somewhat vague, concept of divine holism. The contradiction in the Motul Dictionary, where "only live and true god" is followed by "greatest of the gods," does not support a monotheistic reading in the strict sense required. 72 At best it hints at a divine hierarchy and the complexities that singular and multiple perspectives generate, a feature that requires believers to keep both concepts in mind at the same time. If the Maya were obliged to name a counterpart to the Christian God they would have had good reason to choose itzam/itzamna, whose creative role would suggest a clear parallel. That the new God was composed of three divine hypostases or "persons"—Father, Son, and Holy Ghost—and therefore simultaneously divided and unified, would not strike the Maya as the slightest bit strange or novel.<sup>73</sup>

<sup>71</sup> Mention should be made of a proposal by Gabrielle Vail (2000), who reinterprets the "attributive" glyphs in the codices first described by Günter Zimmermann (1956:18-24), not as omens or tidings but as terms distinguishing underlying deity complexes. Her emphasis on the "fluidity" of Maya god concepts evades the rigidity of the Schellhas categories, although the specifics of her case remain unproven.

<sup>72</sup> See Versnel (2000:91-112) for a similar formulation by the Greek philosopher Xenophanes, made around 540 BCE, which is seen by many as the dawn of Western monotheism. It shares the same kind of contradiction, which is best reconciled by holding simultaneously unified and divided concepts of the divine.

<sup>73</sup> Like the Hindu Trimurti, depictions of the Trinity in Christian art are normally separated into its component parts, with separate images of an older man, younger man, and white dove. But between the fourteenth and eighteenth centuries it was given the theosynthetic form of a "tricephalous," the image of a single man with three faces (see Rishel and Stratton 2006;392).

## **Conclusions**

This study has examined the major contexts in which we find the character here dubbed the Old Man, and concludes that he had unusual significance within ancient Maya religion. It supports his identification as a creator and sustainer, expanding the analysis to show how his varied forms defined the shape and substance of the cosmos. These ontologically complex entities, realized through the pictorial and nominal strategy of "theosynthesis," focus attention on dualistic states of being, collaborative presences, and the nesting of identities in the composition of Maya divinity. Whatever the precise status of the Old Man in these unions, he is the common thread tying each of them to a greater purpose and meaning.

In his best-known variant, God N, he fixes the center and four corners of the world, orienting the entwined dimensions of space and time. His ongoing task in this form was to maintain cosmic order, with a focus on separating the sky from the earth and demarking stations in a yearly cycle. Yet he was by no means restricted to those roles and was equally engaged in defining the celestial and terrestrial planes themselves, in the forms of contrasting sky and earth Cosmic Monsters. Further fusions supplied the ruler of the heavens and his subterranean counterpart. Thus in his contribution to the avian God D he became the lustrous, bejeweled lord of the sky, and as a feature of the feline God L he presided over the dank gloom of the Underworld.

The complementary relationship between the singular and multiple, the divided and unified, are central to these personas, and necessitate a realignment in our thinking in some cases. For example, Mayanists have long ascribed paramountcy in ancient Maya religion to God D, but it is now clear that this understanding must be qualified. If we

consider the hybrid nature of this deity in its wider context it follows that he was but one member or expression of the Old Man complex—an especially eminent and powerful one to be sure, but part of a larger category of compound entities realized in theosynthetic form. The Old Man himself is of a different order. Implicated in the foundation, maintenance, and ultimate destruction of the world, his involvement lends coherence and, if not unity in a pantheistic sense, then a unitary dimension to core elements of the cosmos.

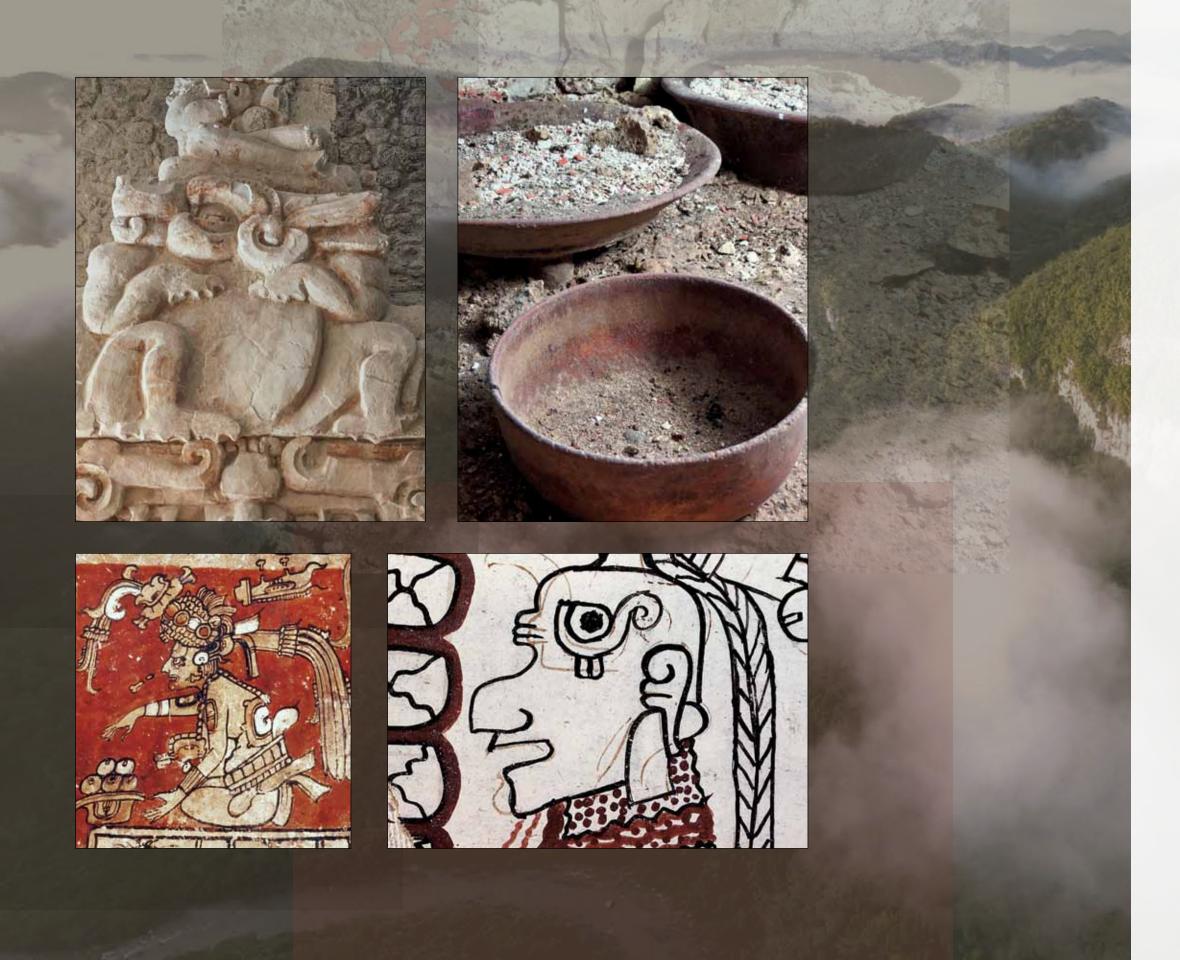
Lastly, it is important to return to the point that the model the Maya selected to signify these special qualities was neither a paragon of youthful vigor nor that of a highborn king, but instead that of the community sage, seer, and diviner—a character feeble in frame but magical in mind. This places enchanted knowledge as the foremost of divine powers and makes universal order the work of a sorcerer's spell.

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**Figure 48.** Head from a monumental sculpture of the Old Man, one of a pair that originally stood as bearers in the iconographic program of Copan Temple 11. Photo: Ken Garrett.





## Maya Archaeology

## **References Cited**

Acuña, Mary Jane

2007 Ancient Maya Cosmological Landscapes: Early Classic Mural Paintings at Río Azul, Petén, Guatemala. M.A. thesis, University of Texas at Austin.

Adams, Abigail E., and James E. Brady

2005 Ethnographic Notes on Maya Q'eqchi' Cave Rites: Implications for Archaeological Interpretation. In *In the Maw of the Earth Monster: Mesoamerica Ritual Cave Use,* edited by James E. Brady and Keith M. Prufer, pp. 301-327. University of Texas Press, Austin.

Adams, Richard E. W.

1999 *Río Azul: An Ancient Maya City.*University of Oklahoma Press,
Norman.

Adams, Richard E. W., ed.

1984 *Río Azul Project Reports, No. 1: Final*1983 *Report.* Center for Archaeological
Research, University of Texas, San
Antonio.

1986 Río Azul Reports, No. 2: The 1984 Season.

Center for Archaeological Research, University of Texas, San Antonio.

1987 *Río Azul Reports, No. 3: The 1985 Season.*Center for Archaeological Research,
University of Texas, San Antonio.

2000 *Río Azul Reports, No. 5: The 1987 Season*. Center for Archaeological Research, University of Texas, San Antonio.

Adams, Richard E. W., and Hubert R. Robichaux

1992 Tombs of Río Azul, Guatemala. Research and Exploration 8(4):412-427. National Geographic Society, Washington, D.C.

Agrinier, Pierre

1964 The Archaeological Burials at Chiapa de Corzo and Their Furniture. Papers 16. New World Archaeological Foundation, Brigham Young University, Provo.

1975 Mound 1A, Chiapa de Corzo, Chiapas, Mexico: A Late Preclassic Architectural Complex. Papers 37. New World Archaeological Foundation, Brigham Young University, Provo. Agurcia Fasquelle, Ricardo, Payson Sheets, and Karl Andreas Taube in press *Rosalila's Eccentric Chert Cache at Copan and Eccentrics among the Classic Maya*. Monograph 2. Precolumbia Mesoweb Press, San Francisco.

## Andrews, E. Wyllys, V

1986 Olmec Jades from Chacsinkin, Yucatan, and Maya Ceramics from La Venta, Tabasco. In *Research and Reflections in Archaeology and History: Essays in Honor of Doris Stone*, edited by E. Wyllys Andrews V, pp. 11-49. Publication 57. Middle American Research Institute, Tulane University, New Orleans.

## Andrews, George F.

2000 La arquitectura de Río Bec: un estudio de contrastes. In Arquitectura e ideología de los antiguos mayas. Memoria de la Segunda Mesa Redonda de Palenque, edited by Sylvia Trejo, pp. 109-157. Instituto Nacional de Antropología e Historia; Consejo Nacional para la Cultura y las Artes, Mexico.

Arellano Hoffmann, Carmen, Peter Schmidt, and Xavier Noguez, eds.

2002 Libros y escritura de tradición indigena. Ensayos sobre los codices prehispánicos y coloniales de México. El Colegio Mexiquense, Zinacantepec.

Arnold, Dean E., Jason R. Branden, Patrick Ryan Williams, Gary M. Feinman, and J. P. Brown

2008 The First Direct Evidence for the Production of Maya Blue: Rediscovery of a Technology. *Antiquity* 82(315):151-164.

#### Arqueología Mexicana

2012 El tesoro de Monte Albán. *Arqueología Mexicana*, Special Edition 41.

#### Ashmore, Wendy

1991 Site-Planning Principles and Concepts of Directionality among the Ancient Maya. *Latin American Antiquity* 2(3): 199-226.

Ashmore, Wendy, and Pamela L. Geller

2005 Social Dimensions of Mortuary Space. In *Interacting with the Dead: Perspectives on Mortuary Archaeology for the New Millennium*, edited by Gordon F. M. Rakita, Jane E. Buisktra, Lane A. Beck, and Sloan R. Williams, pp. 81-92. University of Florida Press, Gainesville.

#### Assmann, Jan

1995 Egyptian Solar Religion in the New Kingdom: Re, Amun and the Crisis of Polytheism. Anthony Alcock, trans. Kegan Paul International, London.

Aveni, Anthony F.

1999 Astronomy in the Mexican Codex Borgia. *Journal for the History of Astronomy* 24, Archaeoastronomy Supplement 30:S1-S20.

Bachand, Bruce R., and Lynneth S. Lowe

2012 Chiapa De Corzo's Mound 11 Tomb and the Middle Formative Olmec. In *Arqueología reciente de Chiapas. Contribuciones del encuentro celebrado en el 60º aniversario de la Fundación Arqueológica Nuevo Mundo*, edited by Lynneth S. Lowe and Mary E. Pye, pp. 45-68. Papers 72. New World Archaeological Foundation, Brigham Young University, Provo.

Baer, Phillip, and Mary E. Baer

1952 Materials on Lacandon Culture of the Petha (Pelha) Region. Microfilm Collection of Manuscripts on Middle American Cultural Anthropology 34. University of Chicago Library, Chicago.

Baglioni, Piero, Rodorico Giorgi, Marcia C. Arroyo, David Chelazzi, Francesca Ridi, and Diana Magaloni Kerpel

2011 On the Nature of the Pigments of the General History of the Things of New Spain: The Florentine Codex. In *Colors Between Two Worlds: The Florentine Codex of Bernardino de Sahagún*, edited by Louis A. Waldman, pp. 79-106. I Tatti, Florence.

#### Baines, John

2000 Egyptian Deities in Context: Multiplicity, Unity, and the Problem of Change. In *One God or Many? Concepts of Divinity in the Ancient World*, edited by Barbara N. Porter, pp. 9-78. Transactions of the Casco Bay Assyriological Institute, New York.

Balcells González, Joshua A.

2007a Following the Traces of Temple XX: Proyecto Grupo de las Cruces 2002 Excavations. In *Palenque: Recent Investigations at the Classic Maya Center*, edited by Damien B. Marken, pp. 161-173. Altamira Press, Walnut Creek.

2007b La hermenéutica de los artefactos trasladados a símbolos: la crítica al modelo de corte maya y el comportamiento socio-político burocrático del Templo XIX, en Palenque, Chiapas. M.A. thesis, Facultad de Ciencias Antropológicas, Universidad Autónoma de Yucatán, Merida.

Ball, Joseph W.

1993 Pottery, Potters, Palaces, and Polities: Some Socioeconomic and Political Implications of Late Classic Maya Ceramic Industries. In *Lowland Maya Civilization in the Eighth Century A.D.*, edited by Jeremy A. Sabloff and John S. Henderson, pp. 243-272. Dumbarton Oaks, Washington, D.C.

1994 Type:Variety Analysis and Masterworks of Classic Maya Polychrome Pottery. In *Painting the Maya Universe: Royal Ceramics of the Classic Period,* by Dorie J. Reents-Budet, pp. 362-365. Duke University Press, Durham.

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: Proceedings of the Segunda Mesa Redonda de Palenque,* 1974, edited by Merle Greene Robertson, pp. 195-210. Robert Louis Stevenson School, Pebble Beach.

Barrera Vásquez, Alfredo, Juan Ramón Bastarrachea Manzano, William Brito Sansores, Refugio Vermont Salas, David Dzul Góngora, and Domingo Dzul Pot

1980 Diccionario maya Cordemex, maya-español, español-maya. Ediciones Cordemex, Merida.

Bassie-Sweet, Karen

1996 At the Edge of the World: Caves and Late Classic Maya World View. University of Oklahoma Press, Norman.

2002 Maya Creator Gods. *Mesoweb:* www.mesoweb.com/features/bassie/CreatorGods/CreatorGods.pdf.

2008 Maya Sacred Geography and the Creator Deities. University of Oklahoma Press, Norman.

Baudez, Claude-François

1996 La Casa de los Cuatro Reyes de Balamku. *Arqueología Mexicana* 3(18):36-41.

2002a Une histoire de la religion des Mayas. Du panthéisme au panthéon. Editions Albin Michel, Paris.

2002b Venus y el Códice Grolier. *Arqueología Mexicana* 10(55):70-79.

Beliaev, Dmitri

2000 Wuk Tsuk and Oxlahun Tsuk: Naranjo and Tikal in the Late Classic. In *The Sacred and the Profane: Architecture and Identity in the Maya Lowlands*, edited by Pierre R. Colas, Kai Delvendahl, Marcus Kuhnert, and Annette Schubart, pp. 63-82. Acta Mesoamericana 10. Verlag Anton Saurwein, Markt Schwaben.

Berger, Rainer, Suzanne De Atley, Reiner Protsch, and Gordon R. Willey

1974 Radiocarbon Chronology for Seibal, Guatemala. *Nature* 252(5483):472-473.

Berjonneau, Gérald, and Jean-Louis Sonnery, eds.

1985 Rediscovered Masterpieces of Mesoamerica: Mexico-Guatemala-Honduras. Editions Art, Boulogne. Berlin, Heinrich

1963 The Palenque Triad. *Journal de la Société des Américanistes de Paris* 52:91-99.

Bernal Romero, Guillermo

2009 El Tablero de K'antok. Una inscripción del Grupo XVI de Palenque, Chiapas. Centro de Estudios Mayas, Instituto de Investigaciones Filológicas, Universidad Nacional Autónoma de México, Mexico.

Berrin, Kathleen, ed.

1988 Feathered Serpents and Flowering Trees: Reconstructing the Murals of Teotihuacan. Fine Arts Museums of San Francisco, San Francisco.

Beyer, Hermann

1910 Das aztekische Götterbild Alexander von Humboldt's. In Wissenschaftliche Festschrift zur Enthüllung des von Seiten Seiner Majestät Kaiser Wilhelm II. dem mexikanischen Volke zum Jubiläum seiner Unabhängigkeit gestifteten Humboldt-Denkmals, pp. 107-119. Müller, Mexico.

Bíró, Péter

2011 Politics in the Western Maya Region (1): Ajawil / Ajawlel and Ch'e'n. Estudios de Cultura Maya 38:41-73.

Blake, Michael

1991 An Emerging Formative Chiefdom at Paso de la Amada, Chiapas, Mexico. In *The Formation of Complex Society in Southeastern Mesoamerica*, edited by William L. Fowler, pp. 27-46. CRC Press, Boca Raton.

Bonnet, Hans

[1939]1999 On Understanding Syncretism. Orientalia 68:181-198.

Boone, Elizabeth Hill

2007 Cycles of Time and Meaning in the Mexican Books of Fate. University of Texas Press, Austin.

Boot, Erik

1999 Of Serpents and Centipedes: The Epithet of Wuk Chapaht Chan K'inich Ahaw. Maya Supplemental File 3. Manuscript.

2004 Kerr No. 4546 and a Reference to an Avian Manifestation of the Creator God Itzamnaj. *MayaVase*: www.mayavase. com/Kerr4546.pdf.

2005a A Preliminary Overview of Common and Uncommon Classic Maya Vessel Type Collocations in the Primary Standard Sequence. *MayaVase*: www.mayavase.com/BootVesselTypes.pdf.

- Boot, Erik (continued)
- 2005b Further Notes on the Initial Sign as /ALAY/. *Wayeb Notes* 18. Electronic document, www.wayeb.org/notes/wayeb notes0018.pdf.
- 2005c Continuity and Change in Text and Image at Chichen Itza, Yucatan, Mexico: A Study of the Inscriptions, Iconography, and Architecture at a Late Classic to Early Postclassic Maya Site. CNWS Publications, Leiden.
- 2008 At the Court of Itzam Nah Yax Kokaj Mut: Preliminary Iconographic and Epigraphic Analysis of a Late Classic Vessel. *MayaVase*: www.mayavase.com/God-D-Court-Vessel.pdf.
- 2009a Otot as a Vessel Classification for a Footed Bowl: Short Epigraphic Note on a Bowl in the Collection of the Musem of Fine Arts, Boston. *MayaVase*: www.mayavase.com/otot. pdf.
- 2009b The Bat Sign in Maya Hieroglyphic Writing: Some Notes and Suggestions, Based on Examples on Late Classic Ceramics. *MayaVase*: www.mayavase.com/boot bat.pdf.
- 2009c The Updated Preliminary Classic Maya–English, English–Classic Maya Vocabulary of Hieroglyphic Readings. *Mesoweb*: www.mesoweb.com/resources/vocabulary/index.html.
- Boyer, Pascal
- 2001 Religion Explained: The Evolutionary Origins of Religious Thought. Basic Books, New York.
- Brady, James E., and Keith M. Prufer
- 2005 Maya Cave Archaeology: A New Look at Religion and Cosmology. In Stone Houses and Earth Lords: Maya Religion in the Cave Context, edited by Keith M. Prufer and James E. Brady, pp. 365-379. University of Colorado Press, Boulder.
- Breedlove, Dennis, and Robert M. Laughlin
- 2000 *The Flowering of Man: A Tzotzil Botany of Zinacantán.* Smithsonian Institution Press, Washington, D.C.
- Bricker, Harvey M., and Victoria R. Bricker
- 2011 *Astronomy in the Maya Codices*. Memoir 265. American Philosophical Society, Philadelphia.
- Brinton, Daniel Garrison
- 1881 The Names of the Gods in the Kiche Myths, Central America. *Proceedings of the American Philosophical Society* 19(109):613-647.
- Brittenham, Claudia L.
- 2015 The Murals of Cacaxtla: The Power of Painting in Ancient Central Mexico. University of Texas Press, Austin.

- Brokmann, Carlos
- 1996 *Proyecto Arqueológico El Palmar, Campeche*. Consejo Nacional para la Cultura y las Artes; Instituto Nacional de Antropología e Historia, Mexico.
- 1997 Proyecto Arqueológico El Palmar, Campeche: informe preliminar de actividades de la primera temporada de campo. Archivo técnico, Centro INAH, Campeche.
- Bruce S., Roberto D.
- 1967 Jerarquía maya entre los dioses lacandones. *Anales* 18:3-108. Instituto Nacional de Antropología e Historia, Mexico.
- Buckley, James
- 1973 Isotopes' Radiocarbon Measurements X. *Radiocarbon* 15(2):280-298.
- Buikstra, Jane E., T. Douglas Price, Lori E. Wright, and James A. Burton
- 2004 Tombs from the Copan Acropolis: A Life History Approach. In *Understanding Early Classic Copan*, edited by Ellen E. Bell, Marcello A. Canuto, and Robert J. Sharer, pp. 191-212. University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia.
- Byland, Bruce, and John M. D. Pohl
- 1994 *In the Realm of 8 Deer: The Archaeology of the Mixtec Codices.* University of Oklahoma Press, Norman.
- Calvo del Castillo, Helena, José L. Ruvalcaba Sil, Tomás Calderón, Marie Vander Meeren, and Laura Sotelo
- 2007 The Grolier Codex: A PIXE and RBS Study of the Possible Maya Document. In *Proceedings of the XI International Conference on PIXE and its Analytical Applications. Puebla, Mexico, May* 25-29, 2007. Universidad Nacional Autónoma de México, Mexico. Available: www.fisica.unam.mx/pixe2007/Downloads/Proceedings/PDF\_Files/PIXE2007-PII-43.pdf.
- Carlson, John B.
- 1983 The Grolier Codex: A Preliminary Report on the Content and Authenticity of a Thirteenth-Century Maya Venus Almanac. In *Calendars in Mesoamerica and Peru: Native American Computations of Time*, edited by Anthony F. Aveni and Gordon Brotherston, pp. 27-57. International Series 174. British Archaeological Reports, Oxford.
- 1990 America's Ancient Skywatchers. *National Geographic Magazine* 177(3):76-107.
- 2012-2013 [issued 2015] The Twenty Masks of Venus: A Brief Report of Study and Commentary on the Thirteenth-Century Maya Grolier Codex, a Fragment of a 104-Year Hybrid-Style Maya Divinatory Venus Almanac. *Archaeoastronomy* 25:1-29.

- 2014 The Grolier Codex: An Authentic 13th-Century Maya Divinatory Venus Almanac: New Revelations on the Oldest Surviving Book on Paper in the Ancient Americas. *The Smoking Mirror* 22(4):2-7.
- Carlson, Ruth, and Francis Eachus
- 1977 The Kekchi Spirit World. In *Cognitive Studies of Southern Mesoamerica*, edited by Helen L. Neuenswader and Dean E. Arnold, pp. 38-65. Publication 3. Sil Museum of Anthropology, Dallas.
- Caso, Alfonso
- 1969 El tesoro de Monte Albán. Editorial Libros de México, Mexico.
- Chase, Diane Z., and Arlen F. Chase
- 1996 Maya Multiples: Individuals, Entries, and Tombs in Structure A34 of Caracol, Belize. *Latin American Antiquity* 7(1):69-79.
- Cheetham, David
- 2010 America's First Colony: Olmec Materiality and Ethnicity at Canton Corralito, Chiapas, Mexico. Ph.D. dissertation, Arizona State University, Tempe.
- Chinchilla Mazariegos, Oswaldo
- 2010 La vagina dentada: una interpretación de la Estela 25 de Izapa y las guacamayas del juego de pelota de Copán. *Estudios de Cultura Maya* 36:117-144.
- 2011 The Flowering Glyphs: Animation in Cotzumalhuapa Writing. In *Their Way of Writing: Scripts, Signs, and Pictographies in Pre-Columbian America,* edited by Elizabeth H. Boone and Gary Urton, pp. 43-75. Dumbarton Oaks, Washington, D.C.
- Chinchilla, Oswaldo M., and Stephen Houston
- 1992 Historia política de la zona de Piedras Negras: las inscripciones de El Cayo. In *VI Simposio de Investigaciones Arqueológicas en Guatemala, 1992,* edited by Juan Pedro Laporte, Héctor Escobedo, and Sandra Villagrán de Brady, pp. 55-63. Museo Nacional de Arqueología y Etnología, Guatemala.
- Christenson, Allen J.
- 2001 Art and Society in a Highland Maya Community: The Altarpiece of Santiago Atitlán. University of Texas Press, Austin.
- 2003 Popol Vuh: The Sacred Book of the Maya. O Books, Winchester.

- Chuchiak, John F.
- 2006 De Extirpatio Codicis Yucatanensis: The 1607 Colonial Confiscation of a Maya Sacred Book New Interpretations on the Origins and Provenience of the Madrid Codex. In Sacred Books, Sacred Languages: Two Thousand Years of Ritual and Religious Maya Literature, edited by Rogelio Valencia Rivera and Geneviève Le Fort, pp. 113-140. Acta Mesoamericana 18. Verlag von Flemming, Möckmühl.

## Ciudad Real, Antonio de

- 2001 *Calepino maya de Motul*. René Acuña, ed. Editores Plaza y Valdés, Mexico.
- Clark, John E., and Arlene Colman
- 2014 Olmec Things and Identity: A Reassessment of Offerings and Burials at La Venta, Tabasco. In *The Inalienable in the Archaeology of Mesoamerica*, edited by Brigitte Kovacevich and Michael G. Callaghan, pp. 14-37. Archaeological Papers of the American Anthropological Association 23(1). Wiley-Blackwell, Malden.
- Clark, John E., and Richard D. Hansen
- 2001 Architecture of Early Kingship: Comparative Perspectives on the Origins of the Maya Royal Court. In *Royal Courts of the Ancient Maya, Volume 2: Data and Case Studies,* edited by Takeshi Inomata and Stephen D. Houston, pp. 1-45. Westview Press, Boulder.
- Clark, John E., Fred W. Nelson, and Gene L. Titmus
- 2012a Flint Effigy Eccentrics. In *Ancient Maya Art at Dumbarton Oaks*, edited by Joanne Pillsbury, Miriam Doutriaux, Reiko Ishihara-Brito, and Alexandre Tokovinine, pp. 270-281. Dumbarton Oaks, Washington, D.C.
- 2012b Eccentric Flint (plates 50-52). In *Ancient Maya Art at Dumbarton Oaks*, edited by Joanne Pillsbury, Miriam Doutriaux, Reiko Ishihara-Brito, and Alexandre Tokovinine, pp. 282-287. Dumbarton Oaks, Washington, D.C.
- Closs, Michael P., Anthony F. Aveni, and Bruce Crowley
- 1984 The Planet Venus and Temple 22 at Copán. *Indiana* 9:221-247.

#### Codex Borgia

- 1993 *Codice Borgia.* Codices Mexicanos 5. Akademische Druckund Verlagsanstalt; Fondo de Cultura Economica, Graz and Mexico.
- Codex Fejérváry-Mayer
- 1994 *Codice Fejérváry-Mayer.* Codices Mexicanos 7. Akademische Druck- und Verlagsanstalt; Fondo de Cultura Economica, Graz and Mexico.

Coe, Michael D.

- 1973 The Maya Scribe and His World. The Grolier Club, New York.
- 1974 A Carved Wooden Box from the Classic Maya Civilization. In *Primera Mesa Redonda de Palenque, Part II: A Conference on the Art, Iconography, and Dynastic History of Palenque, 1973,* edited by Merle Greene Robertson, pp. 51-58. Robert Louis Stevenson School, Pebble Beach.
- 1975 Death and the Ancient Maya. In *Death and the Afterlife in Pre-Columbian America*, edited by Elizabeth P. Benson, pp. 87-104. Dumbarton Oaks, Washington, D.C.
- 1977 Supernatural Patrons of Maya Scribes and Artists. In Social Process in Maya Prehistory: Essays in Honour of Sir Eric Thompson, edited by Norman Hammond, pp. 327-347. Princeton University Press, Princeton.
- 1978 Lords of the Underworld: Masterpieces of Classic Maya Ceramics.
  The Art Museum, Princeton University, Princeton.
- 1988 Ideology of the Maya Tomb. In *Maya Iconography*, edited by Elizabeth P. Benson and Gillett G. Griffin, pp. 222-235. Princeton University Press, Princeton.
- 1989 The Hero Twins: Myth and Image. In *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 1,* pp. 161-184. Kerr Associates, New York.
- 1992 Breaking the Maya Code. Thames and Hudson, New York.

Coe, Michael D., and Richard A. Diehl

1980 In the Land of the Olmec: The Archaeology of San Lorenzo Tenochtitlán. 2 vols. University of Texas Press, Austin.

Coe, Michael D., and Stephen D. Houston

2015 The Maya. 9th ed. Thames and Hudson, New York.

Coe, Michael D., and Justin Kerr

- 1982 Old Gods and Young Heroes: The Pearlman Collection of Maya Ceramics. The Israel Museum, Jerusalem.
- 1997 *The Art of the Maya Scribe*. Thames and Hudson, London.
- 1998 The Art of the Maya Scribe. Harry N. Abrams, New York.

Coe, Michael D., and Mark Van Stone

2001 Reading the Maya Glyphs. Thames and Hudson, New York.

Coe, William

- 1965 Tikal: Ten Years of Study of a Maya Ruin in the Lowlands of Guatemala. In *Expedition* 8(1). Available: www.penn. museum/sites/expedition/tikal-2/.
- 1990 Excavations in the Great Plaza, North Terrace and North Acropolis of Tikal. Tikal Report 14. 5 vols. University Museum Monograph 61. University Museum, University of Pennsylvania, Philadelphia.

Coggins, Clemency Chase

1975 Painting and Drawing Styles at Tikal: An Historical and Iconographic Reconstruction. Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.

Coggins, Clemency Chase, and Orrin C. Shane III, eds.

1984 Cenote of Sacrifice: Maya Treasures from the Sacred Well at Chichén Itzá. University of Texas Press, Austin.

Colby, Benjamin N., and Lore M. Colby

1981 *The Daykeeper: The Life and Discourse of an Ixil Diviner.* Harvard University Press, Cambridge.

Coltman, Jeremy

2007 The Aztec Stuttgart Statuette: An Iconographic Analysis. *Mexicon* 29(3):70-77.

Cortés de Brasdefer, Fernando

1996 A Maya Vase from "El Señor del Petén." Mexicon 18(1):6.

Cortez, Constance

1986 The Principal Bird Deity in Preclassic and Early Classic Maya Art. M.A. thesis, University of Texas at Austin.

Covarrubias, Miguel

1957 Indian Art of Mexico and Central America. Alfred A. Knopf, New York.

Cucina, Andrea, Vera Tiesler, and Arturo Romano

2004 Los acompañantes de Janaab' Pakal y de la Reina Roja de Palenque, Chiapas: el significado de sacrificios humanos en las exequias de la sociedad maya del Clásico. In *Janaab' Pakal de Palenque. Vida y muerte de un gobernante maya*, edited by Vera Tiesler and Andrea Cucina, pp. 69-102. Universidad Nacional Autónoma de México, Mexico.

Cyphers, Ann

2004 Escultura olmeca de San Lorenzo Tenochtitlán. Universidad Nacional Autónoma de México, Mexico.

Dávalos Hurtado, Eusebio

1961 Return to the Sacred Cenote. *National Geographic Magazine* 120(4):540-549.

- de la Fuente, Beatriz, Silvia Trejo, and Nelly Gutiérrez Solana
- 1988 Escultura en piedra de Tula: catálogo. Cuadernos de Historia del Arte 50. Universidad Nacional Autónoma de México, Mexico.

Demarest, Arthur A., Tomás Barrientos, and Federico Fahsen

2006 El apogeo y el colapso del reinado de Cancuen: resultados e interpretaciones del Proyecto Cancuen, 2004-2005. In *XIX Simposio de Investigaciones Arqueológicas en Guatemala*, 2005, edited by Juan Pedro Laporte, Bárbara Arroyo, and Héctor E. Mejía, v. 2, pp. 757-768. Ministerio de Cultura y Deportes; Instituto de Antropología e Historia; Asociación Tikal; Fundación Arqueológica del Nuevo Mundo, Guatemala.

Diehl, Richard A.

- 1990 The Olmec at La Venta. In *Mexico: Splendors of Thirty Centuries*, edited by Kathleen Howard, pp. 51-71. Metropolitan Museum of Art, New York.
- Domenici Davide, David Buti, Costanza Miliani, Brunetto G. Brunetti, and Antonio Sgamellotti
- 2014 The Colours of Indigenous Memory: Non-invasive Analyses of Pre-Hispanic Mesoamerican Codices. In *The Painted Surface*, edited by Antonio Sgamellotti, Brunetto G. Brunetti, and Costanza Miliani, pp. 94-117. Royal Society of Chemistry, London.

Dresden Codex

- n.d.a Codex Dresdensis Mscr.Dresd.R.310. Available: digital. slub-dresden.de/werkansicht/dlf/2967/1/.
- n.d.b Ernst Förstemann's facsimile of the Dresden Codex. FAMSI: www.famsi.org/mayawriting/codices/pdf/dresden\_fors\_schele\_all.pdf.

Drucker, Philip

1952 *La Venta, Tabasco: A Study of Olmec Ceramics and Art.*Bulletin 153. Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Drucker, Philip, Robert F. Heizer, and Robert H. Squier

1959 Excavations at La Venta, Tabasco, 1955. Bulletin 170. Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Ekholm, Gordon F.

1961 Some Collar-Shaped Shell Pendants from Mesoamerica. In Homenaje a Pablo Martínez del Río en el vigésimoquinto aniversario de la primera edición de Los orígenes americanos, pp. 287-293. Instituto Nacional de Antropología e Historia, Mexico.

1970 Ancient Mexico and Central America. American Museum of Natural History, New York.

Eliade, Mircea

- 1959 Methodological Remarks on the Study of Religious Symbolism. In *The History of Religions: Essays in Methodology,* edited by Mircea Eliade and Joseph M. Kitagawa, pp. 86-107. University of Chicago Press, Chicago.
- 1961 *Images and Symbols: Studies in Religious Symbolism.* Harvill Press, London.

Esparza, Octavio Olguín, and Kenichiro Tsukamoto

2011 Espacios de la escenografía ritual. In *Los Mayas. Voces de piedra*, edited by Alejandra Martínez de Velasco and María Elena Vega, pp. 393-399. Ámbar Diseño, México.

Estrada Belli, Francisco

- 2006 Lightning Sky, Rain, and the Maize God: The Ideology of Preclassic Maya Rulers at Cival, Peten, Guatemala. *Ancient Mesoamerica* 17(1):57-78.
- 2008 Investigaciones arqueológicas en la región de Holmul, Peten: Holmul, Cival, La Sufricaya y K'o. Report submitted to the Foundation for the Advancement of Mesoamerican Studies. Available: www.famsi.org/reports/07028es/index.html.
- 2011 *The First Maya Civilization: Ritual and Power Before the Classic Period.* Routledge, Abingdon.

Evans-Pritchard, Edward E.

1956 Nuer Religion. Clarendon Press, Oxford.

Fash, Barbara

2005 Iconographic Evidence for Water Management and Social Organization at Copán. In *Copán: The History of an Ancient Maya Kingdom,* edited by E. Wyllys Andrews and William L. Fash, pp. 103-138. School of American Research, Santa Fe.

Fash, William

1991 Scribes, Warriors and Kings: The City of Copán and the Ancient Maya. Thames and Hudson, London.

Fash, William L., and Barbara W. Fash

1996 Building a World-View: Visual Communication in Classic Maya Architecture. *Res: Anthropology and Aesthetics* 29/30:127-147.

Fash, William L., and David S. Stuart

1991 Dynastic History and Cultural Evolution at Copan. In Classic Maya Political History: Hieroglyphic and Archaeological Evidence, edited by T. Patrick Culbert, pp. 147-179. School of American Research Advanced Seminar Series. Cambridge University Press, New York. Fitzsimmons, James, L.

1998 Classic Maya Mortuary Anniversaries at Piedras Negras, Guatemala. *Ancient Mesoamerica* 9(2):271-278.

Förstemann, Ernst

- 1880 *Die Maya Handschrift der Königlichen öffentlichen Bibliothek zu Dresden.* Verlag der A. Naumann'schen Lichtdruckerei, Leipzig.
- 1906 Commentary on the Maya Manuscript in the Royal Public Library of Dresden. Papers 4(2). Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge.

Foster, Lynn, and Linnea Wren

1996 World Creator and World Sustainer: God N at Chichén Itzá. In *Eighth Palenque Round Table, 1993,* edited by Martha J. Macri and Jan McHargue, pp. 259-269. Pre-Columbian Art Research Institute, San Francisco.

Freidel, David, and Stanley Guenter

2006 Soul Bundles, Caches, Tombs, and Cenotaphs: Creating the Places of Resurrection and Accession in Maya Kingship. In Sacred Bundles: Ritual Acts of Wrapping and Binding in Mesoamerica, edited by Julia Guernsey and F. Kent Reilly, pp. 59-79. Ancient America Special Publication 1. Boundary End Archaeology Research Center, Barnardsville.

Freidel, David, and Linda Schele

1988 Symbol and Power: A History of the Lowland Maya Cosmogram. In *Maya Iconography*, edited by Elizabeth P. Benson and Gillett G. Griffin, pp. 44-93. Princeton University Press, Princeton.

Freidel, David, Linda Schele, and Joy Parker

1993 Maya Cosmos: Three Thousand Years on the Shaman's Path. William Morrow, New York.

Freidel, David, and Charles Suhler

1999 The Path to Life: Toward a Functional Analysis of Ancient Maya Architecture. In *Mesoamerican Architecture as a Cultural Symbol*, edited by Jeff Karl Kowalski, pp. 250-273. Oxford University Press, Oxford.

Gallareta Negrón, Tomás, and Karl Taube

2005 Late Postclassic Occupation in the Ruinas de San Angel Region, Quintana Roo. In *Quintana Roo Archaeology*, edited by Justine M. Shaw and Jennifer P. Mathews, pp. 87-111. University of Arizona Press, Tucson. Gann, Thomas

1900 Mounds in Northern Honduras. *Annual Report* 19(2):655-692. Bureau of American Ethnology, Washington, D.C.

García Barrios, Ana, and Erik Velásquez García

2010 Artistas, gobernantes y magos: el papel de los chatan winik en la sociedad maya. Paper presented at the 15th European Maya Conference, "Maya Society and Socio-territorial Organization," Madrid.

García Moll, Roberto

2005 *Pomoná: un sitio del Clásico maya en las colinas tabasqueñas.* Instituto Nacional de Antropología e Historia, Mexico.

Garibay, Angel M.

1965 Teogonía e historia de los mexicanos. Tres opúsculos del siglo XVI. Editorial Porrúa, Mexico.

Gettens, Rutherford J.

1962 Maya Blue: An Unsolved Problem in Ancient Pigments. *American Antiquity* 27(41):557-564.

Gifford, Carol A., and Muriel Kirkpatrick, eds.

1996 Index of Mesoamerican Archaeological Nomenclature. *Ceramica de Cultura Maya et al.* 18:1-162. Department of Anthropology, Temple University, Philadelphia.

Gifford, James C.

1976 Prehistoric Pottery Analysis and the Ceramics of Barton Ramie in the Belize Valley. Memoirs 18. Peabody Museum of Archæology and Ethnology, Harvard University, Cambridge.

Girard, Rafael

1952 El Popol-Vuh, fuente histórica. Editorial del Ministerio de Educación Pública, Guatemala.

Golden, Charles, Andrew K. Scherer, A. René Muñoz, and Rosaura Vásquez

2008 Piedras Negras and Yaxchilan: Divergent Political Trajectories in Adjacent Maya Polities. *Latin American Antiquity* 19(3):249-274.

González Cruz, Arnoldo

1993 Trabajos arqueológicos en Palenque, Chiapas: informe de campo, temporada VI. Archivo técnico, Instituto Nacional de Antropología e Historia, Mexico.

1994a Trabajos recientes en Palenque. *Arqueología Mexicana* 1(10):39-45.

1994b Informe de temporada 1992-1994: Proyecto Especial Palenque. Archivo técnico, Instituto Nacional de Antropología e Historia, Mexico.

2004 Los templos XXI and XXII de Palenque: algunos resultados de la temporada 2004. *Lakamha'*: *Boletín Informativo del Museo y Zona Arqueológica de Palenque* 3(13):37.

2011 *La Reina Roja: una tumba real de Palenque.* Consejo Nacional para la Cultura y las Artes; Instituto Nacional de Antropología e Historia; Turner, Mexico.

González Cruz, Arnoldo, and Joshua A. Balcells González

- 2014a Análisis y catálogo de cerámica del Templo XX, XXI, XXII, Basurero y Casa del Palacio. Informe del Proyecto Arqueológico Palenque, temporada 2013. Archivo técnico, Instituto Nacional de Antropología e Historia, Mexico.
- 2014b El complejo funerario de la Subestructura XX de Palenque: análisis realizados, resultados preliminares and catálogo de materiales. Archivo técnico, Instituto Nacional de Antropología e Historia, Mexico.

González Cruz, Arnoldo, and Guillermo Bernal Romero

- 2003a El trono del Templo XXI de Palenque, Chiapas: el reinado de K'inich Ahkal Mo' Nahb'. *Arqueología Mexicana* 62:70-75.
- 2003b El trono de Ahkal Mo' Nahb' III: un hallazgo trascendental en Palenque, Chiapas. Instituto Nacional de Antropología e Historia; Nestlé, Mexico.
- 2004 The Throne Panel of Temple 21 at Palenque. In *Courtly Art of the Ancient Maya*, by Mary E. Miller and Simon Martin, pp. 264-267. Thames and Hudson, New York.

Gossen, Gary

1974 Chamulas in the World of the Sun: Time and Space in a Maya Oral Tradition. Harvard University Press, Cambridge.

Graham, Ian

- 1971 *The Art of Maya Hieroglyphic Writing*. Peabody Museum of Archaeology and Ethnology, Harvard University; Center for Inter-American Relations, Cambridge and New York.
- 1975 Corpus of Maya Hieroglyphic Inscriptions, Volume 1: Introduction to the Corpus. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
- 1977 *Corpus of Maya Hieroglyphic Inscriptions, Volume 3, Part 1: Yaxchilan.* Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
- 1982 *Corpus of Maya Hieroglyphic Inscriptions, Volume 3, Part 3: Yaxchilan.* Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Graham, Ian, Lucia R. Henderson, Peter Mathews, and David Stuart

2006 Corpus of Maya Hieroglyphic Inscriptions, Volume 9, Part 2: Tonina. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Graham, John A.

1990 Monumental Sculpture and Hieroglyphic Inscriptions. In *Excavations at Seibal, Department of Peten, Guatemala,* edited by Gordon R. Willey, pp. 1-79. Memoirs 17(1). Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Graham, Mark Miller

1993 Displacing the Center: Constructing Prehistory in Central America. In *Reinterpreting Prehistory of Central America*, edited by Mark M. Graham, pp. 1-38. University Press of Colorado, Niwot.

Grube, Nikolai

- 1992 Classic Maya Dance: Evidence from Hieroglyphs and Iconography. *Ancient Mesoamerica* 3(2):201-218.
- 1994 Epigraphic Research at Caracol, Belize. In *Studies in the Archaeology of Caracol, Belize*, edited by Arlen F. Chase and Diane Z. Chase, pp. 83-122. Pre-Columbian Art Research Institute, San Francisco.
- 2004a Akan: The God of Drinking, Disease and Death. In *Continuity and Change: Maya Religious Practices in Temporal Perspective*, edited by Daniel Graña Behrens, Nikolai Grube, Christian M. Prager, Frauke Sachse, Stefanie Teufel, and Elizabeth Wagner, pp. 59-76. Verlag Anton Saurwein, Markt Schwaben.
- 2004b The Orthographic Distinction between Velar and Glottal Spirants in Maya Hieroglyphic Writing. In *The Linguistics of Maya Writing*, edited by Søren Wichmann, pp. 61-82. University of Utah Press, Salt Lake City.
- 2005 Toponyms, Emblem Glyphs, and the Political Geography of Southern Campeche. *Anthropological Notebooks* 11:89-102.
- 2006 Die Hieroglyphentexte auf den Keramiken. In *Die Maya: Schrift und Kunst*, edited by Nikolai Grube and Maria Gaida, pp. 58-81. SMB-Dumont, Berlin.
- 2008 Monumentos esculpidos: epigrafía e iconografía. In *Reconocimiento arqueológico en el sureste del estado de Campeche, México: 1996-2005,* edited by Ivan Šprajc, pp. 177-231. Paris Monographs in American Archaeology 19. BAR International Series 1742. Archaeopress, Oxford.

Grube, Nikolai, and Maria Gaida

2006 Die Maya: Schrift und Kunst. SMB-Dumont, Berlin.

Grube, Nikolai, and Simon Martin

2004 The Proceedings of the Maya Hieroglyphic Workshop: Patronage, Betrayal, and Revenge: Diplomacy and Politics in the Eastern Maya Lowlands. Transcribed and edited by Phil Wanyerka. University of Texas at Austin; Cleveland State University, Austin and Cleveland.

Grube, Nikolai, and Werner Nahm

- 1990 A Sign for the Syllable *mi. Research Reports on Ancient Maya Writing* 31. Center for Maya Research, Washington, D.C.
- 1994 A Census of Xibalba: A Complete Inventory of Way Characters on Maya Ceramics. In *The Maya Vase Book:* A Corpus of Rollout Photographs of Maya Vases, Volume 4, edited by Barbara Kerr and Justin Kerr, pp. 686-715. Kerr Associates, New York.
- Grube, Nikolai, Carlos Pallán Gayol, and Antonio Benavides Castillo
- 2009 La Escalinata Jeroglífica 1 de Sabana Piletas, Campeche: nuevos datos sobre el epiclásico en la región Puuc. In *Los Investigadores de la Cultura Maya* 17(2):95-115. Universidad Autónoma de Campeche, Campeche.

Grube, Nikolai, and Linda Schele

1991 *Tzuk* in the Classic Maya Inscriptions. *Texas Notes on Precolumbian Art, Writing, and Culture* 14. Center of the History and Art of Ancient American Culture, Art Department, University of Texas, Austin.

Guernsey, Julia

2006 Ritual and Power in Stone: The Performance of Rulership in Mesoamerican Izapan Style Art. University of Texas Press, Austin.

Guilliem Arroyo, Salvador

1998 El Templo Calendário de México-Tlatelolco. *Arqueología Mexicana* 6(34):46-53.

Guiteras Holmes, Calixta

1961 *Perils of the Soul: The World View of a Tzotzil Indian.* Free Press, New York.

Guthrie, Stewart

1993 Faces in the Clouds: A New Theory of Religion. Oxford University Press, New York.

Haines, Helen

2012 "When We Two Parted": Remaking the Ancient Maya Political Landscape of North-Central Belize. Paper presented at the Chacmool Conference, University of Calgary.

Hall, Grant D.

- 1986 Results of Tomb Investigations at Río Azul, Season 1984. In *Río Azul Reports, No. 2: The 1984 Season*, edited by Richard E. W. Adams, pp. 69-110. Center for Archaeological Research, University of Texas, San Antonio.
- 1989 Realm of Death: Royal Mortuary Customs and Polity Interaction in the Classic Maya Lowlands. Ph.D. dissertation, Harvard University, Cambridge.

Hammond, Norman

1999 The Genesis of Hierarchy: Mortuary and Offertory Ritual in the Pre-Classic at Cuello, Belize. In *Social Patterns in Pre-Classic Mesoamerica*, edited by David C. Grove and Rosemary A. Joyce, pp. 49-66. Dumbarton Oaks, Washington, D.C.

Hanks, William F.

1990 Referential Practice: Language and Lived Space among the Maya. University of Chicago Press, Chicago.

Healy, Paul F., and Jaime J. Awe

2001 Middle Preclassic Jade Spoon from Belize. *Mexicon* 23(3):61-64.

Hellmuth, Nicholas M.

- 1987a Monster und Menschen in der Maya-Kunst. Akademische Druck- und Verlagsanstalt, Graz.
- 1987b The Surface of the Underwaterworld: Iconography of the Gods of Early Classic Maya Art in Petén, Guatemala. Foundation for Latin American Anthropological Research, Culver City.

Helmke, Christophe

- 2009 Ancient Maya Cave Usage as Attested in the Glyphic Corpus of the Maya Lowlands and the Caves of the Roaring Creek Valley, Belize. Ph.D. dissertation, Institute of Archaeology, University of London.
- in prep. An Analysis of the Imagery and Text of the Cuychen Vase. In *Speleoarchaeological Investigations in the Macal River Valley, Belize,* edited by Christophe Helmke. Precolumbia Mesoweb Press, San Francisco.

Helmke, Christophe, and Jaime Awe

2008 Organización territorial de los antiguos mayas de Belice Central: confluencia de datos arqueológicos y epigráficos. *Mayab* 20:65-91. Helmke, Christophe, Jaime Awe, and Nikolai Grube

2010 The Carved Monuments and Inscriptions of Xunantunich: Implications for Terminal Classic Sociopolitical Relationships in the Belize Valley. In *Classic Maya Provincial Politics: Xunantunich and Its Hinterlands,* edited by Lisa J. LeCount and Jason Yaeger, pp. 97-121. University of Arizona Press, Tucson.

Helmke, Christophe, Jaime J. Awe, and Harri Kettunen

- 2003 Hieroglyphic Inscriptions of the Belize Valley: Implications for Socio-political Landscape and Dynastic Interaction. Paper presented at the 28th Maya Meetings at Texas, University of Texas, Austin.
- Helmke, Christophe, Jaime J. Awe, Shawn G. Morton, and Gyles Iannone
- in prep. Archaeological Investigations at Cuychen, Macal River Valley, Belize. In *Speleoarchaeological Investigations in the Macal River Valley, Belize*, edited by Christophe Helmke. Precolumbia Mesoweb Press, San Francisco.

Helmke, Christophe, Harri Kettunen, and Stanley Guenter

2006 Comments on the Hieroglyphic Texts of the B-Group Ballcourt Markers at Caracol, Belize. *Wayeb Notes* 23. Electronic document, www.wayeb.com/notes/wayeb notes0023.pdf.

Helmke, Christophe, and Jesper Nielsen

2009 Hidden Identity and Power in Ancient Mesoamerica: Supernatural Alter Egos as Personified Diseases. *Acta Americana* 17(2):49-98.

Hendon, Julia

1991 Status and Power in Classic Maya Society: An Archaeological Study. *American Anthropologist* 93(4):894-918.

Iill. Iane

- 1992 The Flower World of Old Uto-Aztecan. *Journal of Anthropological Research* 48(2):117-144.
- Hodgson, John G., John G. Clark, and Emiliano Gallaga Murrieta 2010 Ojo de Agua Monument 3: A New Olmec-Style Sculpture from Ojo de Agua, Chiapas, Mexico. *Mexicon* 32(6):139-144.

Holland, William Robert

1963 *Medicina maya en los altos de Chiapas: un estudio del cambio socio-cultural.* Colección de Antropología Social 2. Instituto Nacional Indigenista, Mexico.

Hooper, Steven

2006 Pacific Encounters: Art and Divinity in Polynesia 1760-1860. British Museum Press, London.

Hornung, Erik

1982 *Conceptions of God in Ancient Egypt: The One and the Many.* Cornell University Press, Ithaca.

Houston, Stephen D.

- 1983 A Reading for the Flint-Shield Glyph. In *Contributions to Maya Hieroglyphic Decipherment* 1, edited by Stephen D. Houston, pp. 13-25. Human Relations Area Files, New Haven.
- 1986 Problematic Emblem Glyphs: Examples from Altar de Sacrificios, El Chorro, Río Azul, and Xultun. *Research Reports on Ancient Maya Writing* 3:1-11.
- 1988 The Phonetic Decipherment of Mayan Glyphs. *Antiquity* 62(234):126-135.
- 1989 Reading the Past: Maya Glyphs. British Museum, London.
- 1993 Hieroglyphs and History at Dos Pilas: Dynastic Politics of the Classic Maya. University of Texas Press, Austin.
- 1998 Classic Maya Depictions of the Built Environment. In *Function and Meaning in Classic Maya Architecture*, edited by Stephen D. Houston, pp. 333-372. Dumbarton Oaks, Washington, D.C.
- 2001 Comment on "The Power and Ideology of Artistic Creation: Elite Craft Specialists in Classic Maya Society" by Takeshi Inomata. *Current Anthropology* 42(3):336-337.
- 2004 Writing in Early Mesoamerica. In *The First Writing: Script Invention as History and Process*, edited by Stephen D. Houston, pp. 274-309. Cambridge University Press, Cambridge.
- 2014 *The Life Within: Classic Maya and the Matter of Permanence.* Yale University Press, New Haven.
- Houston, Stephen, Claudia Brittenham, Cassandra Mesick, Alexandre Tokovinine, and Christina Warinner
- 2009 *Veiled Brightness: A History of Ancient Maya Color.* University of Texas Press, Austin.

Houston, Stephen D., Hector Escobedo, Mark Child, Charles Golden, Richard Terry, and David Webster

2000 In the Land of the Turtle Lords. Mexicon 12(5):97-110.

- Houston, Stephen D., Hector Escobedo, Perry Hardin, Richard Terry, David Webster, Mark Child, Charles Golden, Kitty Emery, and David Stuart
- 1999 Between Mountains and Sea: Investigations at Piedras Negras, Guatemala, 1998. *Mexicon* 21(1):10-17.

Houston, Stephen D., and Takeshi Inomata

2009 The Classic Maya. Cambridge University Press, New York.

Houston, Stephen D., and Simon Martin

2012 Mythic Prototypes and Maya Writing. *Maya Decipherment*: decipherment.wordpress.com/2012/01/04/mythic-prototypes-and-maya-writing/.

Houston, Stephen, John Robertson, and David Stuart

- 2000 The Language of Classic Maya Inscriptions. *Current Anthropology* 41(3):321-356.
- 2001 Quality and Quantity in Glyphic Nouns and Adjectives. Research Reports on Ancient Maya Writing 47. Center for Maya Research, Washington, D.C.

Houston, Stephen D., and David Stuart

- [1990]1992 T632 as *Muyal*, "Cloud." Central Tennessean Notes in Maya Epigraphy 1. In *Workbook for the XVIth Maya Hieroglyphic Workshop at Texas, March 14-15*, by Linda Schele, pp. 226-227. Department of Art and Art History; Institute of Latin American Studies, University of Texas, Austin.
- 1996 Of Gods, Glyphs and Kings: Divinity and Rulership among the Classic Maya. *Antiquity* 70(268):289-312.
- 2001 Peopling the Classic Maya Court. In *Royal Courts of* the Ancient Maya. Volume One: Theory, Comparison, and Synthesis, edited by Takeshi Inomata and Stephen Houston, pp. 54-83. Westview Press, Boulder.

Houston, Stephen D., David Stuart, and Karl A. Taube

- 1989 Folk Classification of Classic Maya Pottery. *American Anthropologist* 91(3):720-726.
- 1992 Image and Text on the "Jauncy Vase." In *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume* 3, edited by Barbara Kerr and Justin Kerr, pp. 12-26. Kerr Associates, New York.
- 2006 *The Memory of Bones: Body, Being, and Experience among the Classic Maya.* University of Texas Press, Austin.

Hull, Kerry

2003 Verbal Art and Performance in Ch'orti' and Maya Hieroglyphic Writing. Ph.D. dissertation, University of Texas at Austin.

Hull, Kerry, Michael D. Carrasco, and Robert Wald

2009 The First-Person Singular Independent Pronoun in Classic Ch'olan. *Mexicon* 31(2):36-43.

Humberto Ruz, Mario

1968 Tzeltal/Spanish Words from the Mid-Sixteenth Century Copanaguastla Vocabulary of Fr. Domingo de Ara, with an English Translation. In *Highland Chiapas Before the Spanish Conquest*, edited by Edward E. Calnek, pp. 65-79. New World Archaeological Foundation, Provo.

Hunn, Eugene S.

1977 Tzeltal Folk Zoology: The Classification of Discontinuities in Nature. Academic Press, New York.

Hurst, Heather

2005 San Bartolo: técnicas de pintura mural del Preclásico Tardío. In XVIII Simposio de Investigaciones Arqueológicas en Guatemala, 2004, edited by Juan Pedro Laporte, Bárbara Arroyo, and Héctor E. Mejía, v. 2, pp. 639-646. Ministerio de Cultura y Deportes; Instituto de Antropología e Historia; Asociación Tikal; Foundation for the Advancement of Mesoamerican Studies, Guatemala.

Iannone, Gyles

2006 Archaeological Approaches to Ancient Maya Geopolitical Borders. In *Space and Spatial Analysis in Archaeology*, edited by Elizabeth C. Robertson, Jeffery D. Seibert, Deepika C. Fernandez,, and Marc U. Zender, pp. 205-214. University of Calgary Press, Calgary.

Inomata, Takeshi

- 2001 King's People: Classic Maya Courtiers in a Comparative Perspective. In *Royal Courts of the Ancient Maya, Volume One:*Theory, Comparison, and Synthesis, edited by Takeshi Inomata and Stephen Houston, pp. 27-53. Westview Press, Boulder.
- 2014 War, Violence, and Society in the Maya Lowlands. In *Embattled Bodies, Embattled Places: War in Pre-Columbian America*, edited by Andrew Scherer and John Verano, pp. 25-56. Dumbarton Oaks, Washington, D.C.

Inomata, Takeshi, Daniela Triadan, Kazuo Aoyama, Victor Castillo, and Hitoshi Yonenobu

2013 Early Ceremonial Constructions at Ceibal, Guatemala, and the Origins of Lowland Maya Civilization. *Science* 340(6131):467-471.

Jackson, Sarah E.

2005 Deciphering Classic Maya Political Hierarchy: Epigraphic, Archaeological, and Ethnohistoric Perspectives on the Courtly Elite. Ph.D. dissertation, Department of Anthropology, Harvard University. Jackson, Sarah, and David Stuart

2001 The Aj K'uhun Title: Deciphering a Classic Maya Term of Rank. *Ancient Mesoamerica* 12(2):217-228.

Jones, Christopher

1977 Inauguration Dates of Three Late Classic Rulers of Tikal, Guatemala. *American Antiquity* 42(1):28-60.

Jones, Christopher, and Linton Satterthwaite

1982 The Monuments and Inscriptions of Tikal: The Carved Monuments. Tikal Report 33, Part A. Monograph 44. University Museum, University of Pennsylvania, Philadelphia.

Joralemon, Peter David

- 1971 *A Study of Olmec Iconography.* Studies in Pre-Columbian Art and Archaeology 7. Dumbarton Oaks, Washington, D.C.
- 1974 Ritual Blood-Sacrifice among the Ancient Maya: Part I. In *Primera Mesa Redonda de Palenque, Part II: A Conference on the Art, Iconography, and Dynastic History of Palenque, 1973,* edited by Merle Greene Robertson, pp. 59-75. Robert Louis Stevenson School, Pebble Beach.
- 1976 The Olmec Dragon: A Study in Pre-Columbian Iconography. In *Origins of Religious Art and Iconography in Preclassic Mesoamerica*, edited by H. B. Nicholson, pp. 27-71. Latin American Studies Series 31. University of California, Los Angeles.
- 1996 In Search of the Olmec Cosmos: Reconstructing the World View of Mexico's First Civilization. In *Olmec Art of Ancient Mexico*, pp. 51-59. National Gallery of Art, Washington, D.C.

Joyce, Rosemary A., and John S. Henderson

2010 Being "Olmec" in Early Formative Period Honduras. *Ancient Mesoamerica* 21(1):187-200.

Joyce, Thomas A., J. Cooper Clark, and J. Eric S. Thompson

1927 Report on the British Museum Expedition to British Honduras, 1927. *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 57:295-323.

Kaufman, Terrence S.

1989 The Meso-American Calendar: The Day Names. Paper presented at the Santa Barbara Conference on Mesoamerican Writing, Santa Barbara.

Kaufman, Terrence S., and William M. Norman

1984 An Outline of Proto-Cholan Phonology, Morphology and Vocabulary. In *Phoneticism in Mayan Hieroglyphic Writing*, edited by John S. Justeson and Lyle Campbell, pp. 77-166. Institute for Mesoamerican Studies, State University of New York, Albany.

Kelley, David H.

1976 Deciphering the Maya Script. University of Texas Press, Austin.

Kerr, Justin

- 1989 The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 1. Kerr Associates, New York.
- 1990 *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 2.* Kerr Associates, New York.
- 1994 The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 4. Kerr Associates, New York.

Kettunen, Harri

2006 Nasal Motifs in Maya Iconography: A Methodological Approach to the Study of Ancient Maya Art. Annales Academie Scientarium Finnicae, Helsinki.

Kettunen, Harri, and Christophe Helmke

2005 Introduction to Maya Hieroglyphs: Workshop Handbook. 10th European Maya Conference. Leiden University; Wayeb, Leiden.

Kidder, Alfred V., Jesse D. Jennings, and Edwin M. Shook

1946 Excavations at Kaminaljuyu, Guatemala. Publication 561. Carnegie Institution of Washington, Washington, D.C.

Krempel, Guido, and Sebastian Matteo

2011 North-Eastern Peten Styles from a Local Perspective: The Ceramic Schools of Yax We'en Chan K'ihnich. Paper presented at the 1st Cracow Maya Conference, Department of New World Archaeology, Institute of Archaeology, Jagellonian University, Cracow.

Kubler, George

1969 Studies in Classic Maya Iconography. Memoirs 18. Connecticut Academy of Arts and Sciences, New Haven.

Kurth, Dieter

1977 Götter determinieren Götter. Studien zur Altägyptischen Kultur 5:175-181.

Lacadena García-Gallo, Alfonso

- 1995 Evolución formal de las grafías escriturarias mayas: implicaciones históricas y culturales. Ph.D. dissertation, Departamento de Historia de América II (Antropología de América), Facultad de Geografía e Historia, Universidad Complutense de Madrid.
- 2000 Los escribas del Códice de Madrid: Metodología paleográfica. *Revista Española de Antropología Americana* 30:27-85.

- Lacadena García-Gallo, Alfonso (continued)
- 2003 El corpus glífico de Ek' Balam, Yucatán, México. Report submitted to the Foundation for the Advancement of Mesoamerican Studies. Available: www.famsi.org/reports/01057es/index.html.
- 2004a On the Reading of Two Glyphic Appellatives of the Rain God. In *Continuity and Change: Maya Religious Practices in Temporal Perspective*, edited by Daniel Graña-Behrens, Nikolai Grube, Christian M. Prager, Frauke Sachse, Stefanie Teufel, and Elizabeth Wagner, pp. 87-98. Verlag Anton Saurwein, Markt Schwaben.
- 2004b Passive Voice in Classic Maya Texts. In *The Linguistics of Maya Writing*, edited by Søren Wichmann, pp. 165-194. University of Utah Press, Salt Lake City.
- 2008 El título *lakam*: evidencia epigráfica sobre la organización tributaria y militar interna de los reinos mayas del Clásico. *Mayab* 20:23-43.
- 2009 Apuntes para un estudio sobre literatura maya antigua. In *Texto y contexto. Perspectivas intraculturales en el análisis de la literatura maya yucateca*, edited by Antje Gunsenheimer, Tsubasa Okoshi Harada, and John F. Chuchiak, pp. 31-52. BAS, Bonn.

#### Lacadena, Alfonso, and Søren Wichmann

2004 On the Representation of the Glottal Stop in Maya Writing. In *The Linguistics of Maya Writing*, edited by Søren Wichmann, pp. 103-162. University of Utah Press, Salt Lake City.

#### La Farge, Oliver, and Douglas Byers

- 1931 *The Year Bearer's People.* Publication 3. Middle American Research Institute, Tulane University, New Orleans.
- Landa Abrego, María Elena, Eduardo Pareyón Moreno, Alejandro Huerta Carrillo, Emma E. Herrera G., Rosa Lorena Román Torres, Martha Guajardo P., Josefina Cruz R., Sara Altamirano R., and Eva Rodríguez C.
- 1988 La Garrafa. Cuevas de la Garrafa, Chiapas. Estudio y conservación de algunos objectos arqueológicos. Gobierno del Estado de Puebla; Centro Regional de Puebla; Instituto Nacional de Antropología e Historia, Puebla.

#### Laporte, Juan Pedro, and Vilma Fialko

1995 Un reencuentro con Mundo Perdido, Tikal, Guatemala. Ancient Mesoamerica 6(1):41-94

#### Las Casas, Bartholmé

1909 *Apologética historia de las Indias.* 2 Vols. Nueva Biblioteca de Autores Españoles 13. Bailly, Bailliere e Hijos, Madrid.

#### Lavy, Paul A.

2003 As in Heaven, So on Earth: The Politics of Visnu, Siva and Harihara Images in Preangkorian Khmer Civilisation. *Journal of South Asian Studies* 34(1):21-39.

## Lee, Thomas A., Jr., ed.

1985 *Los códices mayas*. Universidad Autónoma de Chiapas, Tuxtla Gutiérrez.

### Leonard, Daniel, and Karl Taube

2007 The God C Variant: A Reappraisal. Paper presented at the 72nd Annual Meeting for the Society for American Archaeology, Austin.

## León Portilla, Miguel

- 1963 Aztec Thought and Culture: A Study of the Ancient Nahuatl Mind. University of Oklahoma Press, Norman.
- 1999 Ometeotl, el supremo dios dual, y Tezcatlipoca "dios principal." *Estudios de Cultura Náhuatl* 30:133-152.

## Leventhal, Richard M., and Gary H. Gossen

1993 The Topography of Ancient Maya Religious Pluralism: A Dialogue with the Present. In *Lowland Maya Civilization in the Eighth Century A.D.*, edited by Jeremy A. Sabloff and John S. Henderson, pp. 185-218. Dumbarton Oaks, Washington, D.C.

#### Littmann, Edwin R.

1982 Maya Blue: Further Perspectives and the Possible Use of Indigo as the Colorant. *American Antiquity* 47(2):404-408.

#### Lombardo de Ruiz, Sonia

2001 Los estilos en la pintura mural maya. In La pintura mural prehispánica en México, II, Área maya. Tomo III, Estudios, edited by Leticia Staines Cicero, pp. 85-154. Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México, Mexico.

#### López Austin, Alfredo

- 1993 *The Myths of the Opossum: Pathways of Mesoamerican Mythology.* University of New Mexico Press, Albuquerque.
- 1997 *Tamoanchan, Tlalocan: Places of Mist.* University Press of Colorado, Niwot.

## López Bravo, Roberto

2000 La veneración de los ancestros en Palenque. *Arqueología Mexicana* 45(8):38-43.

- López Bravo, Roberto, Javier López Mejía, and Benito Venegas Durán
- 2004 Del Motiepa al Murciélagos: la segunda temporada de campo del Proyecto Crecimiento Urbano de la Antigua Ciudad de Palenque. *Lakamha': Boletín Informativo del Museo y Zona Arqueológica de Palenque* 2(9):8-12.

#### López Luján, Leonardo

- 2005 *The Offerings of the Templo Mayor of Tenochtitlan.* University of New Mexico Press, Albuquerque.
- 2010 Tlaltecuhtli. Instituto Nacional de Antropología e Historia. Mexico.

## Lothrop, Samuel K., ed.

1952 Metals from the Cenote of Sacrifice at Chichen Itza, Yucatan. Memoirs 10(2). Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

#### Lounsbury, Floyd G.

- 1976 A Rationale for the Initial Date of the Temple of the Cross at Palenque. In *The Art, Iconography and Dynastic History of Palenque, Part III: Proceedings of the Segunda Mesa Redonda de Palenque, 1974,* edited by Merle Greene Robertson, pp. 211-224. Robert Louis Stevenson School, Pebble Beach.
- 1982 Astronomical Knowledge and its Uses at Bonampak, Mexico. In *Archaeoastronomy in the New World: American Primitive Astronomy*, edited by Anthony F. Aveni, pp 143-168. Cambridge University Press, New York.
- 1983 Base of the Venus Table of the Dresden Codex, and Its Significance in the Calendar-Correlation Problem. In Calendars in Mesoamerica and Peru: Native American Computation of Time, edited by Anthony F. Aveni and Gordon Brotherston, pp. 1-26. International Series 174. British Archaeological Reports, Oxford.
- 1984 Glyphic Substitution: Homophonic and Synonymic. In Phoneticism in Mayan Hieroglyphic Writing, edited by John S. Justeson and Lyle Campbell, pp. 167-184. Institute for Mesoamerican Studies, State University of New York, Albany.

## Love, Bruce

1994 *The Paris Codex: A Handbook for a Maya Priest.* University of Texas Press, Austin.

## Love, Michael, and Julia Guernsey

2007 Monument 3 from La Blanca, Guatemala: A Middle Preclassic Earthen Sculpture and its Ritual Associations. *Antiquity* 81(314):920-932.

## Lowe, Gareth W.

- 1977 The Mixe-Zoque as Competing Neighbors of the Early Lowland Maya. In *The Origins of Maya Civilization*, edited by Richard E. W. Adams, pp. 197-248. University of New Mexico Press, Albuquerque.
- 1981 Olmec Horizons Defined in Mound 20, San Isidro, Chiapas. In *The Olmec and their Neighbors: Essays in Memory of Matthew Sterling*, edited by Elizabeth P. Benson, pp. 231-255. Dumbarton Oaks, Washington, D.C.
- 1989 The Heartland Olmec: Evolution of Material Culture. In *Regional Perspectives on the Olmec,* edited by Robert J. Sharer and David C. Grove, pp. 33-67. Cambridge University Press, Cambridge.

## Lowe, Gareth, and Pierre Agrinier

1960 Mound 1, Chiapa de Corzo, Chiapas, Mexico. Papers 8. New World Archaeological Foundation, Brigham Young University, Provo.

#### Lowe, Lynneth

2012 Chiapa de Corzo y su arqueología a la luz de las investigaciones actuales. In *XXV Simposio de Investigaciones Arqueológicas en Guatemala*, edited by Bárbara Arroyo, Lorena Paiz, and Héctor Mejía, v. 1, pp. 285-292. Ministerio de Cultura y Deportes; Instituto de Antropología e Historia; Asociación Tikal, Guatemala.

#### MacLeod, Barbara

- 1990 Deciphering the Primary Standard Sequence. Ph.D. dissertation, University of Texas at Austin.
- 2004 A World in a Grain of Sand. In *The Linguistics of Maya Writing*, edited by Søren Wichmann, pp. 291-325. University of Utah Press, Salt Lake City.

#### MacLeod, Barbara, and Yuriy Polyukhovich

Deciphering the Initial Sign. In Sourcebook for the 29th
 Maya Hieroglyph Forum, March 11-16, 2005, pp. 166-174.
 Department of Art and Art History, University of Texas,
 Austin.

#### MacLeod, Barbara, and Dorie Reents-Budet

1994 The Art of Calligraphy: Image and Meaning. In *Painting the Maya Universe: Royal Ceramics of the Classic Period,* by Dorie Reents-Budet, pp. 106-163. Duke University Press, Durham.

- MacLeod, Barbara, and Andrea Stone
- 1995 The Hieroglyphic Inscriptions of Naj Tunich: Naj Tunich and the Tradition of Maya Cave Painting. In *Images from the Underworld*, edited by Andrea J. Stone, pp. 155-184. University of Texas Press, Austin.

#### Madrid Codex

n.d. The Combined Brasseur de Bourbourg and Léon de Rosny, Madrid Codex. *FAMSI*: www.famsi.org/mayawriting/codices/madrid.html.

## Magaloni Kerpel, Diana

- 1998 El arte en el hacer: técnicas de pintura mural. In *Fragmentos del pasado. Murales prehispánicos*, edited by Beatriz de la Fuente, pp. 88-109. Universidad Nacional Autónoma de México, Mexico.
- 2004 Materiales, técnicas y procedimientos en la pintura mural de Mesoamerica: metodología de estudio. In *Muros que hablan. Ensayos sobre la pintura mural prehispánica en México*, edited by Beatriz de la Fuente, pp. 141-158. Colegio Nacional, Mexico.

## Marcus, Joyce

1978 Archaeology and Religion: A Comparison of the Zapotec and Maya. *World Archaeology* 10(2):172-191.

#### Marken, Damien B.

2007 The Construction Chronology of Palenque: Seriation within an Architectural Form. In *Palenque: Recent Investigations at the Classic Maya Center*, edited by Damien B. Marken, pp. 57-81. Altamira Press, Walnut Creek.

## Martin, Simon

- 1996 Tikal's "Star War" Against Naranjo. In *Eighth Palenque Round Table*, 1993, edited by Martha J. Macri and Jan McHargue, pp. 223-236. Pre-Columbian Art Research Institute, San Francisco.
- 2001 Under a Deadly Star: Warfare among the Classic Maya. In *Maya: Divine Kings of the Rain Forest*, edited by Nikolai Grube, Eva Eggebrecht, and Matthias Seidel, pp. 175-185. Könemann, Cologne.
- 2004 Preguntas epigráficas acerca de los escalones de Dzibanché. In *Los cautivos de Dzibanché*, edited by Enrique Nalda, pp. 104-115. Instituto Nacional de Antropología e Historia, Mexico.
- 2005a Of Snakes and Bats: Shifting Identities at Calakmul. *The PARI Journal* 6(2):5-13.
- 2005b The Mesoamerican Flood: Myth and Metaphor. Paper presented at the 10th European Maya Conference, "The Maya and their Neighbors," University of Leiden.

- 2006a Cacao in Ancient Maya Religion: First Fruit of the Maize Tree and Other Tales from the Underworld. In *Chocolate in the Americas: A Cultural History of Cacao*, edited by Cameron McNeil, pp. 154-183. University of Florida Press, Gainesville.
- 2006b Sun Bird: The Symbolism of Macaws in Ancient Maya Art.
  Paper presented at The Peabody Museum Weekend of the
  Americas, "Stairways to Immortality: Ancestors, Heroes,
  and Warriors," Harvard University, Cambridge.
- 2006c The Great Sustainer: The Role of God N in Maya Religion.
  Paper presented at the 24th University of Pennsylvania
  Museum Maya Weekend, "Maya Shamans: Magic Heroes
  and Spirit Healers," Philadelphia.
- 2006d The Old Man of the Maya Universe: Towards an Understanding of God N. Paper presented at the 30th Maya Meetings at Texas, University of Texas, Austin.
- 2007a Ideology and the Early Maya Polity. Paper presented at the conference "The Origins of Maya States," University of Pennsylvania Museum, Philadelphia.
- 2007b Theosynthesis in Ancient Maya Religion. Paper presented at the 12th European Maya Conference, "The Maya and Their Sacred Narratives: Text and Context of Maya Mythologies," Geneva.
- 2008 Dissecting the Cosmic Monster: The Iconography of the Altar of Stela M at Copan. Paper presented at the 32nd Maya Meetings at Texas, University of Texas, Austin.
- 2010 The Dark Lord of Maya Trade. In Fiery Pool: The Maya and the Mythic Sea, edited by Daniel Finamore and Stephen D. Houston, pp. 160-162. Yale University Press, New Haven.
- 2012 Carved Bowl. In *Maya Art at Dumbarton Oaks*, edited by Joanne Pillsbury, Miriam Doutriaux, Reiko Ishihara-Brito, and Alexandre Tokovinine, pp. 108-119. Pre-Columbian Art at Dumbarton Oaks 4. Dumbarton Oaks, Washington, D.C.
- 2013 El Templo Rojo y los mayas: arte, mitología, y contactos culturales en las pinturas de Cacaxtla. In *La pintura mural prehispánica en México, V, Cacaxtla. Tomo III, Estudios*, edited by María Teresa Uriarte Castañeda and Fernanda Salazar Gil, pp. 528-544. Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México, Mexico.
- 2014 Early Classic Co-Rulers on Tikal Temple VI. *Maya Decipherment*: decipherment.wordpress.com/2014/11/22/early-classic-co-rulers-on-tikal-temple-vi/.

#### Martin, Simon, and Nikolai Grube

2000 Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya. Thames and Hudson, New York.

2008 Chronicle of the Maya Kings and Queens: Deciphering the Dynasties of the Ancient Maya. 2nd ed. Thames and Hudson, New York.

## Martínez Hernández, Juan

1913 La creación del mundo según los mayas. Páginas inéditas del manuscrito Chumayel. *Proceedings of the XVIII International Congress of Americanists*, pp. 164-171. London.

#### Martínez Hernández, Juan, ed.

1929 Diccionario de Motul maya-español atribuido a Fray Antonio de Ciudad Real y Arte de la lengua maya por Fray Juan Coronel. Compañía Tipográfica Yucateca, Mérida.

#### Mathews, Peter L.

- [1977]2001 The Inscription on the Back of Stela 8, Dos Pilas, Guatemala. In *The Decipherment of Ancient Maya Writing*, edited by Stephen D. Houston, David Stuart, and Oswaldo Chinchilla Mazariegos, pp. 394-415. University of Oklahoma Press, Norman.
- 1980 Notes on the Dynastic Sequence of Bonampak, Part 1. In *Third Palenque Round Table 1978, Part 2*, edited by Merle Greene Robertson, pp. 60-73. University of Texas Press, Austin.
- 1997 *La escultura de Yaxchilán*. Colección Científica 368. Instituto Nacional de Antropología e Historia, Mexico.

## Matos Moctezuma, Eduardo

1988 *The Great Temple of the Aztecs: Treasures of Tenochtitlan.* Thames and Hudson, London.

Matos Moctezuma, Eduardo, and Felipe Solís Olguín 2002 *Aztecs*. The Royal Academy of Arts, London.

#### Matteo, Sebatian, and Guido Krempel

2010 La nobleza y el estilo cerámico de Xultun, Petén, Guatemala.

Paper presented at the XXIV Simposio de Investigaciones

Arqueologicas en Guatemala, Museo Nacional de

Arqueología y Etnología, Guatemala.

#### Maudslay, Alfred P.

1889-1902 Archaeology. 5 vols. Appendix to Biologia Centrali-Americana; or, Contributions to the Knowledge of the Fauna and Flora of Mexico and Central America. R. H. Porter and Dulau, London.

## Mayer, Karl Herbert

1978 Maya Monuments: Sculptures of Unknown Provenance in Europe. Acoma Books, Ramona.

- 1984 Maya Monuments: Sculptures of Unknown Provenance in Middle America. Verlag von Flemming, Berlin.
- 1989 Maya Monuments: Sculptures of Unknown Provenance, Supplement 2. Verlag von Flemming, Berlin.
- 1991 Maya Monuments: Sculptures of Unknown Provenance, Supplement 3. Verlag Von Flemming, Berlin.
- 1995 Maya Monuments: Sculptures of Unknown Provenance, Supplement 4. Academic Publishers, Berlin.
- 1997 Maya Drawings and Graffiti at Pasión del Cristo II, Campeche. *Mexicon* 19(2):23-25.
- 2004 *The Hieroglyphic Stairway 1 at Edzna, Campeche, Mexico.* Academic Publishers, Graz.

#### McAnany, Patricia A.

- 1993 The Economics of Social Power and Wealth among Eighth-Century Maya Households. In *Lowland Maya Civilization in the Eighth Century A.D,* edited by Jeremy A. Sabloff and John S. Henderson, pp. 65-89. Dumbarton Oaks, Washington, D.C.
- 1995 Living with the Ancestors: Kinship and Kingship in Ancient Maya Society. University of Texas Press, Austin.

#### McDonald, Andrew I.

1983 Tzutzuculi: A Middle-Preclassic Site on the Pacific Coast of Chiapas, Mexico. Papers 47. New World Archaeological Foundation, Brigham Young University, Provo.

#### Means, Philip A.

1917 History of the Spanish Conquest of Yucatan and of the Itzas.
Papers 7. Peabody Museum of American Archaeology and
Ethnology, Harvard University, Cambridge.

#### Meskell, Lynn M., and Rosemary A. Joyce

2003 Embodied Lives: Figuring Ancient Maya and Egyptian Experience. Routledge, London.

#### Métropoles Mayas

1993 *Métropoles Mayas*. Musées Royaux d'Art et d'Histoire, Brussels.

#### Meyer, Karl E.

1973 The Plundered Past: The Story of the Illegal International Traffic in Works of Art. Atheneum, New York.

#### Milbrath, Susan

- 1999 Star Gods of the Maya: Astronomy in Art, Folklore, and the Calendars. University of Texas Press, Austin.
- 2002 New Questions Concerning the Authenticity of the Grolier Codex. *Latin American Indian Literatures Journal* 18(1):50-83.

Miles, Susan

1957 The Sixteenth Century Pokom-Maya: A Documentary Analysis of Social Structure and Archaeological Setting. *Transactions* 47:733-781. American Philosophical Society, Philadelphia.

Miller, Arthur G.

1973 *Mural Painting of Teotihuacan*. Dumbarton Oaks, Washington, D.C.

1982 On the Edge of the Sea: Mural Painting at Tancah-Tulum, Quintana Roo, Mexico. Dumbarton Oaks, Washington, D.C.

1995 *The Painted Tombs of Oaxaca, Mexico: Living with the Dead.* Cambridge University Press, Cambridge.

Miller, Mary, and Claudia Brittenham

2013 *The Spectacle of the Late Maya Court: The Murals of Bonampak.* University of Texas Press, Austin.

Miller, Mary, and Simon Martin

2004 *Courtly Art of the Ancient Maya.* Fine Arts Museums of San Francisco; Thames and Hudson, New York.

Miller, Mary Ellen, and Karl Taube

1993 An Illustrated Dictionary of the Gods and Symbols of Ancient Mexico and the Maya. Thames and Hudson, London.

Monaghan, John D.

2000 Theology and History in the Study of Mesoamerican Religions. In *Supplement to the Handbook of Middle American Indians, Volume 6: Ethnology,* edited by John D. Monaghan, pp. 24-49. University of Texas Press, Austin.

Montgomery, John, and Christophe Helmke

2007 Dictionary of Maya Hieroglyphs. *FAMSI*: www.famsi.org/mayawriting/dictionary.htm.

Morán, Fray Pedro

1695 Arte de la lengua cholti que quiere decir lengua de milperos. Compuesto en este pueblo de lacandones llamado de la Señora de los Dolores, el 24 de junio de 1695. Photocopy of manuscript in the collection of the Instituto de Investigaciones Filológicas de la Universidad Nacional Autónoma de México, Mexico.

Morley, Sylvanus Griswold

1920 *The Inscriptions at Copan*. Publication 219. Carnegie Institution of Washington, Washington, D.C.

Morris, Ann A.

1931 Murals from the Temple of the Warriors and Adjacent Structures. In *The Temple of the Warriors*, by Earl Morris, Jean Charlot, and Ann Axtell Morris, pp. 347-481. Publication 406. Carnegie Institution of Washington, Washington, D.C.

Morris, Earl, Jean Charlot, and Ann Axtell Morris

1931 *The Temple of the Warriors*. Publication 406. Carnegie Institution of Washington, Washington, D.C.

Musée Rath Genève

1998 *Mexique: Terre des Dieux*. Musées d'Art et d'Histoire, Geneva.

Nájera, Martha Ilia

2003 El don de la sangre en el equilibrio cósmico. El sacrificio y el autosacrificio sangriento entre los antiguos mayas. Universidad Nacional Autónoma de México, Mexico.

Nehammer Knub, Julie, Simone Thun, and Christophe Helmke

2009 The Divine Rite of Kings: An Analysis of Classic Maya Impersonation Statements. In *The Maya and Their Sacred Narratives: Text and Context in Maya Mythologies*, edited by Geneviève Le Fort, Raphaël Gardiol, Sebastian Matteo, and Christophe Helmke, pp. 177-195. Acta Mesoamericana 20. Verlag Anton Saurwein, Markt Schwaben.

Neumann, Frankie I.

1973 Paper: A Sacred Material in Aztec Ritual. *History of Religions* 13(2):149-159.

Newsome, Elizabeth A.

2001 Trees of Paradise and Pillars of the World: The Serial Stela Cycle of "18-Rabbit-God K," King of Copan. University of Texas Press, Austin.

Nicholson, Henry B.

1967a A Fragment of an Aztec Relief Carving of the Earth Monster. *Journal de la Société des Américanistes* 56(1):81-94.

1967b A "Royal Headband" of the Tlaxcalteca. *Revista Mexicana de Estudios Antropológicos* 21:71-106.

1971 Religion in pre-Hispanic Central Mexico. In *Handbook* of *Middle American Indians* 10: Archaeology of Northern Mesoamerica, edited by Gordon F. Ekholm and Ignacio Bernal, pp. 395-446. University of Texas Press, Austin.

1985 The New Tenochtitlan Templo Mayor Coyolxauhqui-Chantico Monument. *Indiana* 10:77-98. Nielsen, Jesper, and Christophe Helmke

2015 The Fall of the Great Celestial Bird: A Master Myth in Early Classic Central Mexico. Ancient America 13. Boundary End Center; Mesoamerica Center, University of Texas at Austin, Barnardsville and Austin.

Nowotny, Karl Anton

1961 Tlacuilolli, die mexikanischen Bilderhandschriften, Stil und Inhalt, mit einem Katalog der Codex-Borgia-Gruppe. Ibero-Amerikanische Bibliotek, Berlin.

Nuñez de la Vega, Francisco

[1702]1988 Constituciones diocesanas del obispado de Chiapa.
Fuentes para el Estudio de la Cultura Maya 6. Centro
de Estudios Mayas, Instituto de Investigaciones
Filológicas, Universidad Nacional Autónoma de
México, Mexico.

Ola Orie, Olanike, and Victoria E. Bricker

2000 Placeless and Historical Laryngeals in Yucatec Maya. *International Journal of American Linguistics* 66(3):283-317.

Ortíz C., Ponciano, and María del Carmen Rodríguez

1999 Olmec Ritual Behavior at El Manatí: A Sacred Space. In *Social Patterns in Pre-Classic Mesoamerica*, edited by David C. Grove and Rosemary A. Joyce, pp. 225-254. Dumbarton Oaks, Washington, D.C.

Palomo, Juan Manuel

2013 Mortuary Treatments at the Ancient Maya Center of Ceibal, Guatemala. M.A. thesis, University of Arizona, Tucson.

Paris Codex

1968 Codex Peresianus. Akademische Druck- und Verlagsanstalt, Graz.

Parsons, Lee Allen

1983 Altars 9 and 10, Kaminaljuyu, and the Evolution of the Serpent-Winged Deity. In *Civilization in the Ancient Americas: Essays in Honor of Gordon R. Willey*, edited by Richard M. Leventhal and Alan L. Kolata, pp. 145-156. University of New Mexico Press, Albuquerque.

1993 The Izapa Style and the Tibas Jade. In *Precolumbian Jade: New Geological and Cultural Interpretations*, edited by Frederick Lange, pp. 251-259. University of Utah Press, Salt Lake City.

Pasztory, Esther

1983 Aztec Art. Harry N. Abrams, New York.

Paxton, Meredith

2001 The Cosmos of the Yucatec Maya: Cycles and Steps from the Madrid Codex. University of New Mexico Press, Albuquerque.

Pendergast, David M.

1969 *Altun Ha, British Honduras (Belize): The Sun God's Tomb.*Occasional Papers 19. Royal Ontario Museum, Toronto.

Perry, Eugene, Adina Paytan, Bianca Pedersen, and Guadalupe Velazquez-Oliman

2009 Groundwater Geochemistry of the Yucatan Peninsula, Mexico: Constraints on Stratigraphy and Hydrogeology. *Journal of Hydrology* 367:27-40

Pillsbury, Joanne, Miriam Doutriaux, Reiko Ishihara-Brito, and Alexandre Tokovinine, eds.

2012 Ancient Maya Art at Dumbarton Oaks. Pre-Columbian Art at Dumbarton Oaks 4. Dumbarton Oaks, Washington, D.C.

Pohorilenko, Anatole

1996 Portable Carvings in the Olmec Style. In *Olmec Art of Ancient Mexico*, edited by Elizabeth Benson and Beatriz de la Fuente, pp. 118-131. National Gallery of Art, Washington, D.C.

Ponciano, Erick M.

2000 Apéndice al informe sobre la Tumba 25, Río Azul, Petén, Guatemala. In *Río Azul Reports, No. 5: The 1987 Season*, edited by Richard E. W. Adams, p. 239. Center for Archaeological Research, University of Texas, San Antonio.

Pope, Elizabeth I.

2006 Mythic Architecture and Drama in Ancient Mesoamerica: The Manifestation of the Mythological Landscape in the Historical World. Ph.D. dissertation, University of Texas at Austin.

Porter, Barbara N.

2000a One God or Many? A Brief Introduction to a Complex Problem. In *One God or Many? Concepts of Divinity in the Ancient World,* edited by Barbara N. Porter, pp. 1-8. Transactions of the Casco Bay Assyriological Institute, New York.

Porter, Barbara N. (continued)

2000b The Anxiety of Multiplicity: Concepts of Divinity as One and Many in Ancient Assyria. In *One God or Many? Concepts of Divinity in the Ancient World,* edited by Barbara N. Porter, pp. 211-271. Transactions of the Casco Bay Assyriological Institute, New York.

Porter, Barbara N., ed.

2000 One God or Many? Concepts of Divinity in the Ancient World.

Transactions of the Casco Bay Assyriological Institute, New York.

Prager, Christian M.

2013 Übernatürliche Akteure in der Klassischen Maya-Religion: Eine Untersuchung zu intrakultureller Variation und Stabilität am Beispiel des *k'uh* "Götter"-Konzepts in den religiösen Vorstellungen und Überzeugungen Klassischer Maya-Eliten (250 - 900 n.Chr.). Ph.D dissertation, University of Bonn.

Proskouriakoff, Tatiana

1962 The Artifacts of Mayapan. In Mayapan, Yucatan, Mexico, edited by Harry E. D. Pollock, Ralph L. Roys, Tatiana Proskouriakoff, and A. Ledyard Smith, pp. 321-442. Publication 619. Carnegie Institution of Washington, Washington, D.C.

1974 *Jades from the Cenote of Sacrifice, Chichen Itza, Yucatan.* Harvard University, Cambridge.

1978 Olmec Gods and Maya God-Glyphs. In *Codex Wauchope*, edited by Marco Giardino, Barbara Edmonson, and Winifred Creamer, pp. 113-117. Tulane University, New Orleans.

Proskouriakoff, Tatiana, and J. Eric S. Thomson

1947 Maya Calendar Round Dates Such as 9 Ahau 17 Mol. *Notes* on *Middle American Archaeology and Ethnology* 79. Carnegie Institution of Washington, Cambridge.

Prufer, Keith M., and Andrew Kindon

2005 Replicating the Sacred Landscape: The Chen at Muklebal Tzul. In *Stone Houses and Earth Lords: Maya Religion in the Cave Context*, edited by Keith M. Prufer and James E. Brady, pp. 25-46. University Press of Colorado, Boulder.

Reents-Budet, Dorie

1991 The "Holmul Dancer" Theme in Maya Art. In *Sixth Palenque Round Table, 1986*, edited by Virginia M. Fields, pp. 217-222. University of Oklahoma Press, Norman.

1994 Painting the Maya Universe: Royal Ceramics of the Classic Period. Duke University Press; Duke University Museum of Art, Durham.

Reents-Budet, Dorie, Ronald L. Bishop, and Ellen Bell

2004 Secretos bajo la superficie: la cerámica maya y las antiguas prácticas funerarias. In *Culto funerário en la sociedad maya. Memoria de la Cuarta Mesa Redonda de Palenque*, pp. 309-332. Instituto de Antropología e Historia, Mexico.

Reilly, F. Kent, III

1991 Olmec Iconographic Influences on the Symbols of Maya Rulership. In *Sixth Palenque Round Table, 1986,* edited by Virginia M. Fields, pp. 151-166. University of Oklahoma Press, Norman.

1995 Art, Ritual, and Rulership in the Olmec World. In *The Olmec World: Ritual and Rulership*, edited by Jill Guthrie, pp. 26-45. The Art Museum, Princeton University, Princeton.

1999 Mountains of Creation and Underworld Portals: The Ritual Function of Olmec Architecture at La Venta, Tabasco. In *Mesoamerican Architecture as a Cultural Symbol*, edited by Jeff Karl Kowalski, pp. 14-39. Oxford University Press, Oxford.

Relaciones de Yucatán

1898-1900 Coleccion de documentos inéditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de ultramar. 2nd series. Real Academia de la Historia, Madrid.

Reyes Valerio, Constantino

1993 De Bonampak al Templo Mayor. El azul maya en Mesoamérica. Siglo XXI Editores, Mexico.

Ringle, William M.

1988 Of Mice and Monkeys: The Value and Meaning of T1016, the God C Hieroglyph. *Research Reports on Ancient Maya Writing* 18:1-22. Center for Maya Research, Washington, D.C.

Rishel, Joseph J., and Suzanne L. Stratton, eds.

2006 *The Arts in Latin America, 1492-1820.* Yale University Press, New Haven.

Rivard, Jean-Jacques

1965 Cascabeles y ojos del dios maya de la muerte, Ah Puch. *Estudios de Cultura Maya* 5:75-91.

Robelo, Cecilio Augustín

1911 Origen del calendario náhuatl. *Anales* 3:337-350. Museo Nacional de Arqueología, Historia y Etnología, Mexico.

Robertson, John, Stephen Houston, Marc Zender, and David Stuart

2007 Universals and the Logic of the Material Implication: A Case Study from Maya Hieroglyphic Writing. Research Reports on Ancient Maya Writing 62. Electronic document, http://repositories.lib.utexas.edu/handle/2152/17706.

Robertson, Merle Greene

1974 The Quadripartite Badge: A Badge of Rulership. In *Primera Mesa Redonda de Palenque, Part I: A Conference on the Art, Iconography, and Dynastic History of Palenque, 1973,* edited by Merle Greene Robertson, pp. 77-93. Robert Louis Stevenson School, Pebble Beach.

1985a The Sculpture of Palenque, Volume II: The Early Buildings of the Palace and the Wall Paintings. Princeton University Press, Princeton.

1985b *The Sculpture of Palenque, Volume III: The Late Buildings of the Palace.* Princeton University Press, Princeton.

2000 Murals Found in Subterranean Tomb of Temple XX, Palenque. *Pre-Columbian Art Research Institute Newsletter* 31:1-4.

2001 Los murales de la tumba del Templo XX Sub de Palenque.
 In La pintura mural prehispánica en México, II, Área maya.
 Tomo IV, Estudios, edited by Leticia Staines Cicero, pp.
 381-388. Instituto de Investigaciones Estéticas, Universidad
 Nacional Autónoma de México, Mexico.

Robichaux, Hubert R.

1990 Hieroglyphic Texts of Río Azul, Guatemala. M.A. thesis, University of Texas at San Antonio.

Robichaux, Hubert R., and Brett A. Houk

2005 A Hieroglyphic Plate Fragment from Dos Hombres, Belize: Epigraphic and Archaeological Evidence Relating to Political Organization in the Three Rivers Region of Northwestern Belize and Northeastern Guatemala. *Mono y Conejo* 3:4-12.

Robicsek, Francis, and Donald M. Hales

1981 *The Maya Book of the Dead, The Ceramic Codex. The Corpus of Codex-Style Ceramics of the Late Classic Period.* University of Virginia Art Museum, Charlottesville.

1982 Maya Ceramic Vases from the Late Classic Period: The November Collection of Maya Ceramics. University of Virginia Art Museum, Charlottesville.

Rodríguez, María del Carmen, and Ponciano Ortíz

2000 A Massive Offering of Axes at La Merced, Hidalgotitlán, Veracruz, Mexico. In *Olmec Art and Archaeology in Mesoamerica*, edited by John E. Clark and Mary E. Pye, pp. 155-167. National Gallery of Art, Washington, D.C.

Roys, Ralph L.

1933 The Book of Chilam Balam of Chumayel. Publication 438. Carnegie Institution of Washington, Washington, D.C.

1965 *The Ritual of the Bacabs.* University of Oklahoma Press, Norman.

Ruvalcaba, José L., Sandra Zetina, Helena Calvo del Castillo, Elsa Arroyo, Eumelia Hernández, Marie Van der Meeren, and Laura Sotelo

2007 The Grolier Codex: A Non Destructive Study of a Possible Maya Document Using Imaging and Ion Beam Techniques.

Materials Research Society Symposium Proceedings 1047:299-306.

Ruz Lhuillier, Alberto

1962 Exploraciones arqueológicas en Palenque: 1957. *Anales* 14(43):35-90. Instituto Nacional de Antropología e Historia, Mexico.

1991 *Costumbres funerarias de los antiguos mayas*. Universidad Nacional Autónoma de México, Mexico.

Sabloff, Jeremy A.

1975 Excavations at Seibal, Department of Peten, Guatemala. Ceramics. Memoirs 13(2). Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Sahagún, Fray Bernardino de

1950-1982 Florentine Codex: General History of the Things of New Spain. Translated from the Aztec into English, with Notes and Illustrations by Arthur J. O. Anderson and Charles E. Dibble. 12 vols. School of American Research Press; University of Utah, Santa Fe.

San Román Martín, María Elena

2007 La cerámica de Palenque: buscando una metodología para su estudio y clasificación. Report submitted to the Foundation for the Advancement of Mesoamerican Studies. Available: www.famsi.org/reports/03097es/03097esSanR oman01.pdf.

Satterthwaite, Linton

1964 Long Count Positions of Maya Dates in the Dresden Codex, with Notes on Lunar Positions and the Correlation Problem. *Proceedings of the 35th International Congress of Americanists, Mexico City* 2:47-67.

Saturno, William A.

2007 San Bartolo and the Preclassic Maya Lowlands. Paper presented at the 25th University of Pennsylvania Museum Maya Weekend, "The Dawn of Maya Civilization," Philadelphia.

Saturno, William, David Stuart, Anthony Aveni, and Franco Rossi 2012 Ancient Maya Astronomical Tables at Xultun, Guatemala. Science 336(6082):714-717.

Saturno, William A., Karl A. Taube, and David Stuart

2005 The Murals of San Bartolo, El Petén, Guatemala, Part 1: The North Wall. Ancient America 7. Center for Ancient American Studies, Barnardsville.

Saville, Marshall H.

1926 Mosaic Decorated Stone Masks in Ancient Mexico. *Indian Notes* 3(1):1-9. Museum of the American Indian, Heye Foundation, New York.

Schele, Linda

- 1987 New Data on the Paddlers from Butz'-Chan of Copán. *Copán Notes* 29. Copán Mosaics Project; Instituto Hondureño de Antropología e Historia, Austin.
- 1991 An Epigraphic History of the Western Maya Region. In Classic Maya Political History: Hieroglyphic and Archaeological Evidence, edited by T. Patrick Culbert, pp. 72-101. School of American Research Advanced Seminar Series. Cambridge University Press, New York.
- 1993 The Demotion of Chak-Zutz': Lineage Compounds and Subordinate Lords at Palenque. In *Sixth Palenque Round Table*, 1986, edited by Virginia Fields, pp. 6-11. University of Oklahoma Press, Norman.
- 1995 The Olmec Mountain and Tree of Creation in Mesoamerican Cosmology. In *The Olmec World: Ritual and Rulership*, edited by Jill Guthrie, pp. 104-117. The Art Museum, Princeton University, Princeton.

1997 Hidden Faces of the Maya. Alti Publishing, Singapore.

Schele, Linda, and Nikolai Grube

2002 Introduction to Maya Hieroglyphic Writing. In *Notebook* for the XXVIIth Maya Hieroglyphic Forum at Texas, edited by Nikolai Grube, pp. 1-88. Maya Workshop Foundation; University of Texas, Austin.

Schele, Linda, and Peter Mathews

1998 The Code of Kings: The Language of Seven Sacred Maya Temples and Tombs. Scribner, New York.

Schele, Linda, and Jeffrey Miller

1983 Mirror, the Rabbit, and the Bundle: Accession Expressions from the Classic Maya Inscriptions. Studies in Pre-Columbian Art and Archaeology 25. Dumbarton Oaks, Washington, D.C.

Schele, Linda, and Mary Miller

1986 *The Blood of Kings: Dynasty and Ritual in Maya Art.* Braziller; Kimbell Art Museum, Fort Worth.

Schellhas, Paul

1904 Representation of Deities of the Maya Manuscripts. 2nd ed. Papers 4(1). Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge.

Schmidt, Peter I.

2007 Birds, Ceramics, and Cacao: New Excavations at Chichén Itzá, Yucatan. In *Twin Tollans: Chichén Itzá, Tula, and the Epiclassic to Early Postclassic Mesoamerican World*, edited by Jeff Karl Kowalski and Cynthia Kristan-Graham, pp. 150-203. Dumbarton Oaks, Washington, D.C.

Schmidt, Peter J., Mercedes de la Garza, and Enrique Nalda 1998 *Maya*. Rizzoli, New York.

Schmidt, Peter J., David Stuart, and Bruce Love

2012 Inscriptions and Iconography of Castillo Viejo, Chichen Itza. *The PARI Journal* 9(2):1-17.

Seler, Eduard

- [1887]1990 Collected Works in Mesoamerican Linguistics and Archaeology, Vol. 1. 2nd ed. J. Eric S. Thompson and Francis B. Richardson, eds. Labyrinthos, Culver City.
- 1898 Quetzalcouatl-Kukulcan in Yucatan. Zeitschrift für Ethnologie 30:377-410.
- 1904 Venus Period in the Picture Writings of the Borgian Codex Group. In *Mexican and Central American Antiquities, Calendar Systems, and History,* edited and translated under the supervision of Charles P. Bowditch, pp. 355-391. Bulletin 28. Bureau of American Ethnology, Washington, D.C.
- [1905]1993 Collected Works in Mesoamerican Linguistics and Archaeology, Vol. 2. 2nd ed. J. Eric S. Thompson and Francis B. Richardson, eds. Labyrinthos, Culver City.

1963 *Comentarios al Códice Borgia.* 3 vols. M. Fenk, trans. Fondo de Cultura Económica, Mexico.

Shook, Edwin M., and Robert Heizer

1976 An Olmec Sculpture from the South (Pacific) Coast of Guatemala. *Journal of New World Archaeology* 1(3):1-8.

Smailus, Ortwin

1975 El maya-chontal de Acalán. Análisis lingüístico de un documento de los años 1610-12. Universidad Nacional Autónoma de México, Mexico.

Smith, A. Ledyard

- 1950 *Uaxactun, Guatemala: Excavations of 1931-1937*. Publication588. Carnegie Institution of Washington, Washington, D.C.
- 1982 Major Architecture and Caches. In *Excavations at Seibal, Department of Peten, Guatemala*, edited by Gordon R. Willey, pp. 1-263. Memoirs 15(1). Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Smith, A. Ledyard, and Alfred V. Kidder

1951 *Excavations at Nebaj, Guatemala*. Publication 594. Carnegie Institution of Washington, Washington, D.C.

Smith, Robert E., and James C. Gifford

1966 Maya Ceramic Varieties, Types, and Wares at Uaxactun: Supplement to "Ceramic Sequence at Uaxactun, Guatemala." Preprint of *Middle American Research Records* 3:125-174. Publication 28. Middle American Research Institute, Tulane University, New Orleans.

Solís, Felipe, gen. org.

2009 *Teotihuacan: Cité des Dieux*. Musée du quai Branly; Somogy, Paris.

Sosa, John

1985 The Maya Sky, The Maya World: A Symbolic Analysis of Yucatec Maya Cosmology. Ph.D. dissertation, State University of New York at Albany.

Soustelle, Jacques

1940 La Pensée Cosmologique des Anciens Mexicains. Hermann et Cie, Paris.

Spinden, Herbert J.

- 1913 A Study of Maya Art: Its Subject Matter and Historical Development. Memoirs 6. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
- 1928 Maya Inscriptions Dealing with Venus and the Moon. *Bulletin of the Buffalo Society of Natural Sciences* 14(1):5-59.

Steinbrenner, Larry

2005 The Grolier Codex: A Venus Table for a Quetzalcoatl Cult? In *Art for Archaeology's Sake: Material Culture and Style Across the Disciplines*, edited by Andrea Waters-Rist, Christine Cluney, Calla McNamee, and Larry Steinbrenner, pp. 76-81. The Archaeological Association of the University at Calgary, Calgary.

Stone, Andrea

1983 The Zoomorphs of Quirigua, Guatemala. Ph.D. dissertation, University of Texas at Austin.

1985 Variety and Transformation in the Cosmic Monster Theme at Quirigua, Guatemala. In *Fifth Palenque Round Table*, 1983, edited by Virginia M. Fields, pp. 39-48. Pre-Columbian Art Research Institute, San Francisco.

1989 Disconnection, Foreign Insignia, and Political Expansion: Teotihuacan and the Warrior Stelae of Piedras Negras. In *Mesoamerica after the Decline of Teotihuacan, A.D. 700–900*, edited by Richard A. Diehl and Janet C. Berlo, pp. 153-172. Dumbarton Oaks, Washington, D.C.

1995 Images from the Underworld: Naj Tunich and the Tradition of Maya Cave Painting. University of Texas Press, Austin.

Stone, Andrea, and Marc Zender

2011 Reading Maya Art: A Hieroglyphic Guide to Ancient Maya Painting and Sculpture. Thames and Hudson, London.

Straight, Kirk D.

- 2003 Reporte de la cerámica de la Estructura XIX: observaciones preliminares; reporte de análisis de materiales. In Informe arqueológico del Proyecto Grupo de las Cruces de la temporada 2002. Report submitted to the Instituto Nacional de Antropología e Historia, Mexico.
- 2007 A House of Cards: Construction, Proportion, and Form at Temple XIX, Palenque, Chiapas, Mexico. In *Palenque: Recent Investigations at the Classic Maya Center*, edited by Damien B. Marken, pp. 175-204. Altamira Press, Walnut Creek.

Stross, Brian

- 1989 A Note on the Copan Emblem Glyph. *Copán Notes* 54. Copán Mosaics Project; Instituto Hondureño de Antropología e Historia, Austin.
- 1991 La Mojarra Stela 1: Fish and Maize in Late Formative Iconography. Paper presented at the First Sibley Family Symposium on World Traditions of Culture and Art, "The Symbols of Kingship: Comparative Strategies around the World." University of Texas, Austin.

Stuart, David

- 1984 Royal Auto-Sacrifice among the Maya: A Study of Image and Meaning. *Res: Anthropology and Aesthetics* 7/8:6-20.
- 1985 The Yaxha Emblem Glyph as *Yax-ha*. Research Reports on Ancient Maya Writing 1:1-6. Center for Maya Research, Washington, D.C.
- 1986 The Chronology of Stela 4 at Copán. *Copán Notes* 12. Copán Mosaics Project; Instituto Hondureño de Antropología e Historia, Austin.
- 1987a *Ten Phonetic Syllables*. Research Reports on Ancient Maya Writing 14. Center for Maya Research, Washington, D.C.

- Stuart, David (continued)
- 1987b The Paintings of Tomb 12, Río Azul. In *Río Azul Reports, No. 3: The 1985 Season,* edited by Richard E. W. Adams, pp. 161-167. Center for Archaeological Research, University of Texas, San Antonio.
- 1988 Blood Symbolism in Maya Iconography. In *Maya Iconography*, edited by Elizabeth P. Benson and Gillett G. Griffin, pp. 175-221. Princeton University Press, Princeton.
- 1989 Hieroglyphs on Maya Vessels. In *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 1*, pp. 159-160. Kerr Associates, New York.
- [1992]2010 The LAKAM Sign. Manuscript. Available: decipherment.wordpress.com/2010/03/08/the-lakam-logogram.
- 1993a Breaking the Code: Rabbit Story. In *Lost Kingdoms of the Maya*, by Gene S. Stuart and George E. Stuart, pp. 170-171. National Geographic Society, Washington, D.C.
- 1993b Historical Inscriptions and the Maya Collapse. In *Lowland Maya Civilization in the Eighth Century A.D.: A Symposium at Dumbarton Oaks 7th and 8th October 1989,* edited by Jeremy A. Sabloff and John S. Henderson, pp. 321-354. Dumbarton Oaks, Washington, D.C.
- 1997 The Hills are Alive: Sacred Mountains and the Maya Cosmos. *Symbols* (Spring):13-17.
- 1998 "The Fire Enters His House": Architecture and Ritual in Classic Maya Texts. In *Function and Meaning in Classic Maya Architecture*, edited by Stephen D. Houston, pp. 373-425. Dumbarton Oaks, Washington, D.C.
- [2000]2007 The Maya Hieroglyphs for Mam, "Grandfather, Grandson, Ancestor." Manuscript. Available: decipherment.files.wordpress.com/2007/09/mam-glyph.pdf.
- 2003 A Cosmological Throne at Palenque. *Mesoweb*: www. mesoweb.com/stuart/notes/Throne.pdf.
- 2004a New Year Records in Classic Maya Inscriptions. *The PARI Journal* 5(2):1-6.
- 2004b The Entering of the Day: An Unusual Date from Northern Campeche. *Mesoweb*: www.mesoweb.com/stuart/notes/EnteringDay.pdf.
- 2005a A Foreign Past: The Writing and Representation of History on a Royal Ancestral Shrine at Copan. In *Copán: The History of an Ancient Maya Kingdom,* edited by E. Wyllys Andrews and William L. Fash, pp. 373-394. School of American Research Press, Santa Fe.
- 2005b Glyphs on Pots: Decoding Classic Maya Ceramics. In *Sourcebook for the 29th Maya Hieroglyph Forum, March 11-16,* 2005, pp. 110-165. Department of Art and Art History, University of Texas, Austin.
- 2005c *The Inscriptions from Temple XIX at Palenque*. Pre-Columbian Art Research Institute, San Francisco.

- 2006a Jade and Chocolate: Bundles of Wealth in Classic Maya Economics and Ritual. In *Sacred Bundles: Ritual Acts of Wrapping and Binding in Mesoamerica*, edited by Julia Guernsey and F. Kent Reilly, pp. 127-144. Boundary End Archaeology Research Center, Barnardsville.
- 2006b The Palenque Mythology. In *Sourcebook for the 30th Maya Meetings, March 14-19, 2006,* pp. 85-194. Mesoamerica Center; Department of Art and Art History, University of Texas, Austin.
- 2007a Old Notes on the Possible ITZAM sign. *Maya Decipherment*: decipherment.wordpress.com/2007/09/29/old-notes-on-the-possible-itzam-sign/.
- 2007b Presentation at the Hieroglyphic Forum, The 31st Maya Meetings at Texas, University of Texas, Austin.
- 2007c Reading the Water Serpent as WITZ'. Maya Decipherment: decipherment.wordpress.com/2007/04/13/reading-the-water-serpent/.
- 2010 Shining Stones: Observations on the Ritual Meaning of Early Maya Stelae. In *The Place of Stone Monuments: Context, Use and Meaning in Mesoamerica's Preclassic Transition,* edited by Julia Guernsey, John E. Clark, and Barbara Arroyo, pp. 283-298. Dumbarton Oaks, Washington, D.C.
- 2011 Some Working Notes on the Text of Tikal Stela 31. *Mesoweb*: www.mesoweb.com/stuart/notes/Tikal.pdf.
- 2012 *The Order of Days: Unlocking the Secrets of the Ancient Maya.* Three Rivers Press, New York.
- Stuart, David, and Stephen Houston
- 1994 *Classic Maya Place Names*. Studies in Pre-Columbian Art and Archaeology 33. Dumbarton Oaks, Washington, D.C.
- Stuart, David, Stephen D. Houston and John Robertson
- 1999 Recovering the Past: Classic Mayan Language and Classic Maya Gods. In *Notebook for the XXIIIrd Maya Hieroglyphic Forum at Texas, March, 1999,* pt. 2. Department of Art and Art History; College of Fine Arts; Institute of Latin American Studies, University of Texas, Austin.
- Stuart, David, and George Stuart
- 2008 Palenque: Eternal City of the Maya. Thames and Hudson, London.
- Stuart, George
- 1988 A Guide to the Style and Content of the Series Research Reports on Ancient Maya Writing. Special Supplement to *Research Reports on Ancient Maya Writing 15*. Center for Maya Research, Washington, D.C.

- Swadesh, Morris, Christina Álvarez, and Juan Ramón Bastarrachea Manzano
- 1970 Diccionario de elementos del maya yucateco colonial. Centro de Estudios Mayas, Cuadernos 3. Coordinación de Humanidades, Universidad Nacional Autónoma de México, Mexico.
- Tarn, Nathaniel, and Martin Prechtel
- 1997 Scandals in the House of Birds: Shamans and Priests on Lake Atitlán. Marsilio, New York.
- Taube, Karl Andreas
- 1986 The Teotihuacan Cave of Origin: The Iconography and Architecture of Emergence Mythology in Mesoamerica and the American Southwest. *Res: Anthropology and Aesthetics* 12:51-82
- 1987 A Representation of the Principal Bird Deity in the Paris Codex. *Research Reports on Ancient Maya Writing* 6:1-10. Center for Maya Research, Washington, D.C.
- 1988 The Ancient Yucatec New Year Festival: The Liminal Period in Maya Ritual and Cosmology. Ph.D. dissertation, Department of Anthropology, Yale University.
- 1989a Itzam Cab Ain: Caimans, Cosmology, and Calendrics in Postclassic Yucatán. *Research Reports on Ancient Maya Writing* 26:1-12. Center for Maya Research, Washington, D.C.
- 1989b The Maize Tamale in Classic Maya Diet, Epigraphy, and Art. *American Antiquity* 54(1):31-51.
- 1992a The Iconography of Mirrors at Teotihuacan. In *Art, Polity, and the City of Teotihuacan,* edited by Janet C. Berlo, pp. 169-204. Dumbarton Oaks, Washington, D.C
- 1992b *The Major Gods of Yucatan: Schellhas Revisited.* Studies in Pre-Columbian Art and Archaeology 32. Dumbarton Oaks, Washington, D.C..
- 1994 The Iconography of Toltec Period Chichen Itza. In *Hidden among the Hills: Maya Archaeology of the Northwestern Yucatan Peninsula*, edited by Hanns J. Prem, pp. 212-246. Acta Mesoamericana 7. Verlag von Flemming, Möckmühl.
- 1994 The Birth Vase: Natal Imagery in Ancient Maya Myth and Ritual. In *The Maya Vase Book: A Corpus of Rollout Photographs of Maya Vases, Volume 4,* edited by Barbara Kerr and Justin Kerr, pp. 652-685. Kerr Associates, New York.
- 1998 The Jade Hearth: Centrality, Rulership, and the Classic Maya Temple. In *Function and Meaning in Classic Maya Architecture*, edited by Stephen D. Houston, pp. 427-478. Dumbarton Oaks, Washington, D.C.
- 2000 The Turquoise Hearth: Fire, Self-Sacrifice, and the Central

- Mexican Cult of War. In *Mesoamerica's Classic Heritage: From Teotihuacan to the Aztecs*, edited by Davíd Carrasco, Lindsay Jones, and Scott Sessions, pp. 269-340. University Press of Colorado, Boulder
- 2001 The Breath of Life: The Symbolism of Wind in Mesoamerica and the American Southwest. In *The Road to Aztlan: Art* From a Mythic Homeland, edited by Virginia M. Fields and Victor Zamudio-Taylor, pp. 102-123. Los Angeles County Museum of Art, Los Angeles.
- 2003 Tetitla and the Maya Presence at Teotihuacan. In *Teotihuacan and the Maya: Reinterpreting Early Classic Maya Interaction*, edited by Geoffrey E. Braswell, pp. 273-314. University of Texas Press, Austin.
- 2003 Maws of Heaven and Hell: The Symbolism of the Centipede and Serpent in Classic Maya Religion. In *Antropología de la eternidad: la muerte en la cultura maya*, edited by Andrés Ciudad Ruiz, Mario Humberto Ruz Sosa, and María Josefa Iglesias Ponce de León, pp. 405-442. Sociedad Española de Estudios Mayas, Madrid.
- 2004a Aztec Religion: Creation, Sacrifice, and Renewal. In *The Aztec Empire*, pp. 168-177. Guggenheim Museum, New York.
- 2004b Flower Mountain: Concepts of Life, Beauty and Paradise among the Classic Maya. *Res: Anthropology and Aesthetics* 45:69-98.
- 2004c *Olmec Art at Dumbarton Oaks*. Dumbarton Oaks, Washington, D.C.
- 2005 The Symbolism of Jade in Classic Maya Religion. *Ancient Mesoamerica* 16(1):23-50.
- 2007 In the World of the Sun: Solar Imagery and Symbolism among the Classic Maya. Paper presented at the 31st Maya Meetings at Texas, University of Texas, Austin.
- 2009 The Womb of the World: The Cuauhxicalli and Other Offering Bowls of Ancient and Contemporary Mesoamerica. In *Maya Archaeology 1*, edited by Charles Golden, Stephen Houston, and Joel Skidmore, pp. 86-106. Precolumbia Mesoweb Press, San Francisco.
- 2010 At Dawn's Edge: Tulum, Santa Rita and Floral Symbolism of Late Postclassic Yucatan. In *Astronomers, Scribes, and Priests: Intellectual Interchange between the Northern Maya Lowlands and Highland Mexico in the Late Postclassic Period,* edited by Gabrielle Vail and Christine Hernandez, pp. 145-191. Dumbarton Oaks, Washington, D.C.
- 2012 The Symbolism of Turquoise in Postclassic Mexico. In Turquoise in Mexico and North America: Science, Conservation, Culture and Collections, edited by J. C. H. King, Max Carocci, Carolyn Cartwright, Colin McEwan, and Rebecca Stacy, pp. 117-134. British Museum, London.

- Taube, Karl A., Heather Hurst, Yasmin O'Grady, Angelyn Bass, William Saturno, and David Stuart
- 2014 Pigmento y pintura: resumen de los estudios iniciales de reconstruir los fragmentos de las pinturas de San Bartolo. Paper presented at XXVIII Simposio de Investigaciones Arqueológicas en Guatemala, Guatemala.

#### Taube, Karl A., and Reiko Ishihara-Brito

- 2012 Mosaic Mask. In *Ancient Maya Art at Dumbarton Oaks*, edited by Joanne Pillsbury, Miriam Doutriaux, Reiko Ishihara-Brito, and Alexandre Tokovinine, pp. 464-474. Dumbarton Oaks, Washington, D.C.
- Taube, Karl A., William A. Saturno, David Stuart, and Heather Hurst
- 2010 The Murals of San Bartolo, El Petén, Guatemala, Part 2: The West Wall. Ancient America 10. Boundary End Archaeology Research Center, Barnardsville.

#### Tedlock, Barbara

1982 *Time and the Highland Maya*. University of New Mexico Press, Albuquerque.

#### Tedlock, Dennis

- 1985 Popol Vuh: The Mayan Book of the Dawn of Life. Simon and Schuster, New York.
- 1996 Popol Vuh: The Mayan Book of the Dawn of Life. Rev. ed. Simon and Schuster, New York.

## Thompson, Donald E.

1955 An Altar and Platform at Mayapan. *Current Reports* 2(28):281-288. Carnegie Institution of Washington, Washington, D.C.

#### Thompson, J. Eric S.

- 1929 Maya Chronology: Glyph G of the Lunar Series. *American Anthropologist* 31(2):223-231.
- 1930 Ethnology of the Mayas of Southern and Central British Honduras. Anthropological Series 17(2). Publication 274. Field Museum of Natural History, Chicago.
- 1936 Exploration in Campeche and Quintana Roo and Excavations at San José, British Honduras. Year Book 35. Carnegie Institution of Washington, Washington, D.C.
- 1939 The Moon Goddess in Middle America, with Notes on Related Deities. *Contributions to American Anthropology and History* 5(29):121-174. Publication 509. Carnegie Institution of Washington, Washington, D.C.

- 1942 Representations of Tezcatlipoca at Chichen Itza. Notes on Middle American Archaeology and Ethnology 1(12):48-50.
   Division of Historical Research, Carnegie Institution of Washington, Cambridge.
- 1950 *Maya Hieroglyphic Writing: Introduction*. Publication 589. Carnegie Institute of Washington, Washington, D.C.
- 1957 Deities Portrayed on Censers at Mayapan. *Current Reports* 2(40):599-632. Carnegie Institution of Washington, Cambridge.
- 1962 *A Catalog of Maya Hieroglyphs*. University of Oklahoma Press, Norman.
- 1963 Maya Archaeologist. University of Oklahoma Press, Norman.
- 1970a Bacabs: Their Portraits and their Glyphs. In *Monographs and Papers in Maya Archaeology*, edited by William R. Bullard, pp. 459-465. Papers 61. Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.
- 1970b Maya History and Religion. University of Oklahoma Press, Norman.
- 1972 A Commentary on the Dresden Codex: A Maya Hieroglyphic Book. Transactions 71. American Philosophical Society, Philadelphia.
- 1975 The Grolier Codex. In *Studies in Ancient Mesoamerica* 2, edited by John A. Graham, pp. 1-9. Contributions of the University of California Archaeological Research Facility 27. Department of Anthropology, University of California, Berkeley.
- 1976 *A Commentary on the Dresden Codex*. American Philosophical Society, Philadelphia.

#### Thurber, Floyd, and Valerie Thurber

1959 Itzamna Cocahmut, the Possible "Spark-Bird" God of the Maya. *Southwestern Journal of Anthropology* 15(2):185-188.

#### Tiesler, Vera

1999 Rasgos bioculturales entre los antiguos mayas: aspectos arqueológicos y sociales. Ph.D. dissertation, Universidad Nacional Autónoma de México, Mexico.

#### Tobin, Thomas J.

2001 The Construction of the Codex in Classic- and Postclassic-Period Maya Civilization. Electronic document, www. mathcs.duq.edu/~tobin/maya/.

## Tokovinine, Alexandre

2008 The Power of Place: Political Landscape and Identity in Classic Maya Inscriptions, Imagery, and Architecture. Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.

2013 *Place and Identity in Classic Maya Narratives*. Studies in Pre-Columbian Art and Archaeology 37. Dumbarton Oaks, Washington, D.C.

## Tourtellot, Gair, III, and Norman Hammond

2007 Serendipity at Seibal: Gordon Willey in the Pasión Valley. In *Gordon R. Willey and American Archaeology*, edited by Jeremy A. Sabloff and William L. Fash, pp. 126-140. University of Oklahoma Press, Norman.

#### Townsend, Richard F.

1991 The Mt. Tlaloc Project. In *To Change Place: Aztec Ceremonial Landscapes*, edited by Davíd Carrasco, pp. 26-30. University of Colorado Press, Niwot.

#### Tozzer, Alfred M.

1957 Chichen Itza and its Cenote of Sacrifice: A Comparative Study of Contemporaneous Maya and Toltec. 2 vols. Memoirs 11-12. Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge.

#### Tozzer, Alfred M., ed.

1941 Landa's Relación de las Cosas de Yucatán. A translation edited with notes by Alfred M. Tozzer. Papers 18. Peabody Museum of American Archaeology and Ethnology, Harvard University, Cambridge.

## Trik, Aubrey S., and Michael E. Kampen

- 1983 *The Graffiti of Tikal*. Tikal Report 31. Monograph 57. University Museum, University of Pennsylvania, Philadelphia.
- Tsukamoto, Kenichiro, Hirokazu Kotegawa, and Luz Evelia Campaña
- 2012 Secuencia constructiva de las plazas en el grupo principal de El Palmar, Campeche, México. *Estudios de Cultura Maya* 39:13-30.
- Tsukamoto, Kenichiro, Javier López Camacho, and Octavio Q. Esparza Olguín
- 2010 El Palmar, Campeche. Arqueología Mexicana 17(101):72-77.

#### iunesi, Kapnaei

2008 Some Thoughts about a New Vase and an Old God. *The PARI Journal* 8(2):13-19.

#### Vail, Gabrielle

2000 Pre-Hispanic Maya Religion: Conceptions of Divinity in the Postclassic Maya Codices. *Ancient Mesoamerica* 11(1):123-147.

2006 The Maya Codices. Annual Review of Anthropology 35:497-519.

## Van Hagen, Wolfgang

1943 The Aztec and Maya Papermakers. J. J. Augustin, New York.

#### Velásquez García, Erik

- 2002 Una nueva interpretación del Monstruo Cósmico maya. In *Arte y Ciencia. XXIV Coloquio Internacional de Historia del Arte*, edited by Peter Krieger, pp. 419-457. Instituto de Investigaciones Estéticas, Universidad Nacional Autónoma de México, Mexico.
- 2004 Los escalones jeroglíficos de Dzibanché. In *Los cautivos de Dzibanché*, edited by Enrique Nalda, pp. 79-103. Instituto Nacional de Antropología e Historia, Mexico.
- 2006 The Maya Flood Myth and the Decapitation of the Cosmic Caiman. *The PARI Journal* 4(4):1-10.

#### Versnel, H. S.

2000 Thrice One: Three Greek Experiments in Oneness. In *One God or Many? Concepts of Divinity in the Ancient World,* edited by Barbara N. Porter, pp. 79-164. Transactions of the Casco Bay Assyriological Institute, New York.

#### Vienna Dictionary

1972 Bocabulario de Mayathan: Das Wörterbuch der Yukatkischen Mayasprache. 2 vols. Akademische Druck- und Verlagsanstalt, Graz.

#### Vogt, Evon Z.

- 1969 *Zinacantan: A Maya Community in the Highlands of Chiapas.* Harvard University Press, Cambridge.
- 1973 Gods and Politics in Zinacantan and Chamula. *Ethnology* 12(2):99-113.
- 1976 Tortillas for the Gods: A Symbolic Analysis of Zinacanteco Rituals. Harvard University Press, Cambridge.

#### Vogt, Evon Z., and David Stuart

2005 Some Notes on Ritual Caves among the Ancient and Modern Maya. In *In the Maw of the Earth Monster:*Mesoamerican Ritual Cave Use, edited by James E. Brady and Keith M. Prufer, pp. 155-185. University of Texas Press, Austin.

#### Webster, David L., ed.

1989 *The House of the Bacabs, Copan, Honduras*. Dumbarton Oaks, Washington, D.C.

Webster, David, and Elliot M. Abrams

1983 An Elite Compound at Copan, Honduras. *Journal of Field Archaeology* 10(3):285-296.

Welsh, W. Bruce M.

1988 *An Analysis of Classic Lowland Maya Burials*. International Series 409. British Archaeological Reports, Oxford.

Whittaker, Gordon

1986 The Mexican Names of Three Venus Gods in the Dresden Codex. *Mexicon* 8:56-60.

Willey, Gordon R.

1990 General Summary and Conclusions. In Excavations at Seibal, Department of Peten, Guatemala, edited by Gordon R. Willey, pp. 175-276. Memoirs 17(4). Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Willey, Gordon R., A. Ledyard Smith, Gair Tourtellot III, and Ian Graham

1975 Excavations at Seibal, Department of Peten, Guatemala.

Introduction: The Site and its Setting. Memoirs 13(1).

Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge.

Wisdom, Charles

1950 Materials on the Chorti Language. Microfilm Collection of Manuscripts on Middle American Cultural Anthropology28. University of Chicago Library, Chicago.

Wren, Linnea H., Peter Schmidt, and Ruth Krochock

1989 The Great Ball Court Stone of Chichén Itzá. *Research Reports on Ancient Maya Writing* 25:23-27. Center for Maya Research, Washington, D.C.

Zender, Marc

1999 Diacritical Marks and Underspelling in the Classic Maya Script: Implications for Decipherment. M.A. thesis, University of Calgary.

2004a A Study of Classic Maya Priesthood. Ph.D. dissertation, Department of Archaeology, University of Calgary.

2004b Glyphs for "Handspan" and "Strike" in Classic Maya Ballgame Texts. *The PARI Journal* 4(4):1-9.

2005 The Raccoon Glyph in Classic Maya Writing. *The PARI Journal* 5(4):6-11.

2011 Thoughts on the Inscriptions from Cahal Pech Burial B1-2.
Paper presented at the 5th Annual Maya at the Playa
Conference, Flagler County, Florida.

Zimmermann, Günter

1954 Notas para la historia de los manuscritos mayas. *Yan* 3:62-64.

1956 *Die Hieroglyphen der Maya-Handschriften*. Cram, de Gruyter, Hamburg.

Źrałka, Jarosław, Wiesław Koszkul, Simon Martin, and Bernard Hermes

2011 In the Path of the Maize God: A Royal Tomb at Nakum, Petén, Guatemala. *Antiquity* 85(3):890-908.