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WATER LILY AND COSMIC SERPENT: EQUIVALENT CONDUITS OF THE MAYA SPIRIT REALM

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*This study examines the roles of the serpent and water lily in Maya epigraphy and iconography and, from an ethnobotanical perspective, interprets these elements in Classic and post-Classic Maya images and glyphs in ways that challenge conventional wisdom. We introduce a new and testable explanation for the evident Maya perception of a close symbolic relationship between the feathered serpent and the water lily (*Nymphaea ampla *DC.), whereby we identify the plant's serpentoid peduncle with ophidian images and the plant's large-petalose (plumose) flowers with avian symbols. Physical and symbolic similarities between the Water Lily Serpent, the Water Lily Monster, the Quadripartite God, a rain/lightning deity referred to as Chahk, and the Vision Serpent are assessed with the suggestion that these entities share a closer relationship than previously suspected based in large part on their shared and overlooked water lily attributes. Our novel interpretations are presented in light of recurrent suggestions that* Nymphaea ampla *was employed as a psychotropic medium in religious and dynastic rituals.*

Key words: Nymphaea ampla, *water lily serpent, feathered serpent, vision serpent, entheogen*

*En este estudio se investiga el papel y las funciones simbólicas de la serpiente y el lirio acuático (*Nymphaea ampla *DC.) en la epigrafía e iconografía de los Mayas pre-colombinos. Además se interpretan estos elementos simbólicos en los glifos e imágenes de los periodos clásico y posclásico desde una perspectiva etnobotánica que cuestiona su interpretación convencional. Proponemos una explicación nueva de la aparente percepción Maya de la existencia de una profunda relación simbólica entre la serpiente emplumada y el lirio acuático. El pedúnculo serpenteante del lirio lo interpretamos como imágenes ofídicas y las grandes flores de aspecto plumoso como símbolos aviares. Hemos investigado las similitudes físicas y simbólicas entre varios dioses, como la serpiente del lirio acuático, el monstruo del lirio acuático, el Dios cuatripartito, una deidad de la lluvia y los relámpagos llamada Chahk, y la serpiente de visión. Concluimos que estos seres iconográficos comparten relaciones simbólicas que se han apreciado poco en el pasado sobre todo por la falta del reconocimiento del papel simbólico central del lirio acuático. Nuestras novedosas interpretaciones se basan en el contexto de la evidencia que* Nymphaea ampla *fue empleada como un medio psicotrópico en los rituales religiosos y dinásticos.*

Introduction

Glyphic and iconographic records of pre-Columbian Maya prove more difficult to decipher and interpret than those of ancient Egypt, Mesopotamia and India. The Maya's penchant for extreme abstraction in their elaboration of glyphs and symbolic forms, their practice of crowding and conflating mythic and historical images into spatially restricted configurations, and their frequent use of highly erodible stone (primarily limestone and sandstone) in the plastic arts, present modern Mayanists a worn, fragmented and perplexing assemblage of historical vestiges. To further complicate matters, the wholesale destruction of

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Maya literature, art and religion by Spanish clergy during the 16th-century conquest of Mesoamerica left historians few reliable points of cultural reference on which to base current and historical suppositions, iconographic interpretations, and evolving debates on the early beliefs and ritual practices of Maya communities.

The present attempt to explain the close relationship between two unique elements of Maya symbolism –the serpent and water lily– offers an instructive case in point. Analogous uses of these same motifs in mythic and iconographic traditions of ancient Egypt, Mesopotamia, the Mediterranean and India have been examined and outlined in some detail by Old World historians (Bosch 1960; Fergusson 1971; Goodyear 1891; Lahiri 1984; McDonald 2002, 2004; Vogel 1926), but such is not the case with respect to floral and ophidian symbolism in Mesoamerica. Preliminary explanations for the symbolic meaning of the Maya serpent and water lily vary considerably among authors, just as Mayanists have yet to recognize, much less examine in detail, the traditional practice of uniting these motifs in iconographic media.

Few historians would disagree that serpent imagery stands out as one of the more common and variable zoomorphic symbols in Mesoamerica (Baldwin 1998:26; Miller and Taube 1993:149), but the underlying significance of symbolic permutations of the image is still poorly understood. Above all, serpent images are associated with water, both in the form of rain and of bodies of standing water, including the watery underworld of Maya cosmology. In this context, iconic serpents are frequently associated with images of mollusks and fish, leading some commentators to identify the sacred reptile as a primordial denizen of fertile bodies of water, if not the embodiment of water itself (Bassie-Sweet 2008:90; Miller and Taube 1993:150; Schele and Miller 1986:46; Tozzer and Allen 1910:314).

Alternatively, placement of serpent images along the foundations, balustrades, and lintels of focal structures in ancient urban centers of Mexico and Central America was at times intended to identify these buildings with the mythic image of a 'serpent-mountain' known as the ***chan-witz*** or ***kan-witz*** (cf. Schele and Kappelman 2001; Schele and Mathews 1998:43) to Maya speakers and ***coatepec*** to Aztec traditionalists, ostensibly identifying the snake as a symbol of the earth (cf. Luckert 2001; although Schele and Miller (1986:47) assert that no ''personified form of the earth has yet been identified''). Entrances to the inner sanctums of these structures at the ground floor and summits are frequently depicted as the mouth of a serpent and are therefore believed to represent a portal between the natural world and the Maya watery Netherworld (Freidel et al. 1993:370; Miller and Taube 1993:150, 370; cf. Schele and Mathews 1998:43). Passage through the maw of the dragon was likely perceived by Maya dynasts and attendant elites as a transformative exercise that served to identify certain members of the ruling classes as divine (Stross 1996).

Paradoxically, the cosmic dragon of Mesoamerica (Celestial Monster, Bicephalic Monster, or Cosmic Monster) is also identified with the sky (Freidel and Schele 1988:73; Schele and Miller 1986:47), his body frequently exhibiting prominent feathers or providing a perch on which a divine bird displays outstretched wings and flamboyant sprays of feathers. The front head of this

ophidian monster is usually crocodilian while an occasional inverted skeletal human skull is observed on the serpent's tail (i.e., the 'bicephalic monster'), the latter bearing at times a 'quadripartite badge' headdress (see below). Linguists often emphasize the fact that Maya words for 'sky' and 'serpent' are near-homophonic (***chan*** or ***kan***) and note that the extended body or coils of the creature occasionally represent a sky-band, in that the tubular body often contains symbolic signs that are believed to represent the sun (***k'in***), moon (***uh***), stars (***ek'***) and darkness (***ak'bal***). This celestial aspect of the serpent can be found in contemporary folklore as well as temple imagery connected with atmospheric phenomena, such as clouds (Schele and Mathews 1998:238), lightning bolts (Miller and Taube 1993:150; Taube 1992:17, 19), and rain (Tozzer and Allen 1910:314), underscoring again a heavenly dimension to what is often viewed as a chthonic (underworld) symbol. Indeed, some commentators have interpreted the serpent's extended body as a representation of heaven's vault, its arching coils setting a celestial course for the sun (Miller and Taube 1993:150; Sosa 1986; Tozzer and Allen 1910:315), stars (Spinden 1913:59; Tozzer and Allen 1910:314) and Milky Way (Freidel et al. 1993: 151; Milbrath 1999:40–41).

On a functional level, therefore, the divine serpent, feathered or otherwise, can be seen as a symbol of recurrent natural processes in the earth, bodies of water, and sky, with particular emphasis on a relationship with water. On one level, ophidian symbolism in Mesoamerica appears to signify a cosmic principle that embodies the interactions and phenomenology of chthonic and atmospheric forces and elements. But on another level, serpent imagery also seems to have been employed as a symbol of transcendence, serving as a divine conduit through which priests, aristocrats, souls, ancestors and deities were transported between the natural world and the supernatural otherworld of the gods (Gendrop 1980; Miller and Taube 1993:150; Stuart and Stuart 2008:173). This general concept was apparently important to Maya priests and aristocrats, as serpent imagery played a versatile role in ritual and iconographic practices.

By virtue of close and recurrent iconographic associations between the divine serpent and water lily, we can only assume that the symbolic significance of this plant form overlaps to a certain extent with that of its reptilian accessory. Both living forms are associated with water and both frequently interact with each other in iconographic expression in this recurrent context. While few investigators have appreciated the degree to which the water lily flower is associated with the serpent, even fewer have acknowledged the serpent as a metaphor for part of the water lily itself (or vice versa). What has been acknowledged, at least as a guiding generality, is that the serpent and the water lily share close affinities with aquatic, fertile environments (Alcorn 1984:714; Miller and Taube 1993:150; Puleston 1977; Robicsek 1981:149). This perspective seems logical, given that aquatic habitats are a consequence of rainy seasons and that summer precipitation cycles are a perceptual cause and/or effect of solar, stellar and planetary rotations, as well as biotic cycles of life and death (Cohodas 1982). Hence the relationship between the serpent, water lily, and atmospheric forces is a reasonable and plausible symbolic construct.

In this general context, some authors have identified the water lily with natural principles that govern birth, the regeneration of life, and the fate of

successive dynasts (Rands 1953; Robicsek 1981:149). Naturally, the return of the rainy season correlates with the greening of landscapes, especially in lowland basins where water lilies thrive; and consequently, the water lily is recognized as a symbol of fertility and living creation (Miller and Taube 1993:184; Schele and Miller 1986:11). We are particularly interested here in building upon the known and obvious relationship of the water lily with bodies of water and various kinds of reptilian entities (primarily the serpent and crocodile), with an aim to explore and discover more about the depiction, classification, and symbolic meaning of water lilies and serpents to Mayans of the past and present.

Our data and synthesis are based on a broad survey of images that cover a considerable span of time and space in Maya history, focusing primarily on iconography that dates from the late Classical to post-Classical periods (8–16th centuries). Ceramic paintings (Figures 2, 5, 7) from the Justin Kerr Maya Vase Database (Appendix 1) provide the most detailed and eclectic source of information, but these treasures usually lack context in terms of their age and provenance due to the careless methods of clandestine collectors. Conversely, professional archeologists have uncovered, dated and documented bas-reliefs in stucco and stone that provide both chronological and geographical perspectives on Maya culture and history (Figures 8a–f, 9). Imagery and glyphic records from these sources provide an abundance of evidence to decipher past beliefs, mythic traditions, and ritualistic practices of lowland Maya communities from northern Yucatan (Dzibilchaltun and Uxmal) to Palenque and as far west as Copan, Honduras.

Iconographic Representations of the Mayan Water Lily

Realistic and Stylized Representations of the Water Lily

Some of the earliest works on Maya iconography during the turn of the 20th century report a close association between the serpent and a botanical motif, several noting specifically that the creature shares a direct relationship with water lilies (Maudslay 1889–1902; Spinden 1913:45, 64–65, Figure 79). The full complexity of this relationship in the visual arts was poorly understood until Rands (1953) undertook a detailed investigation of Maya water lily imagery, in which 18 definable motif types were recognized based on five distinguishable visual perspectives. Natural depictions of the water lily plant, such as those executed occasionally on ceramics or as adornments of elites and masked individuals on mural paintings (Freidel et al. 1993:238, Figures 5:3 and 5:4), exhibit sufficient botanical detail to identify the vegetative image with certainty and to distinguish the plant from other floristic elements of southern Mexico and Central America. Renderings of large and solitary, radially symmetrical flowers with numerous white petals, and with an array of yellow stamens and a crown-shaped ovarian disk from 1 to 1.5 cm wide (Figure 1), leave little doubt that *Nymphaea ampla* is the species in question (Rands 1953). As well, these diagnostic floral features agree botanically with the plant's vegetative structures, most notably by their floating, heart-shaped leaves with dentate blade margins and an undersurface that exhibits a prominent reticulum of veins (Figures 1a, d, 2, 4c, 5a,b, 6a).

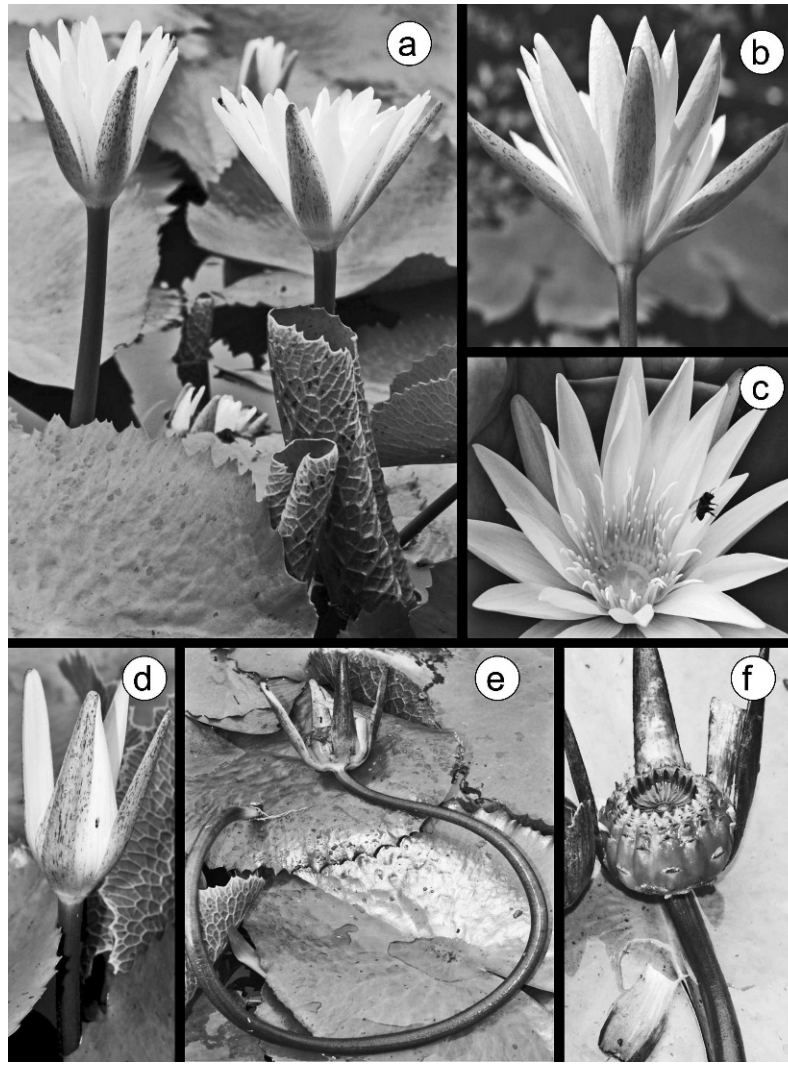

Figure 1. Maya Water Lily (*Nymphaea ampla*) morphology. a) Aquatic habit of maturing leaves and flowering shoots. b) Lateral (profile) view of water lily flower, emphasizing a basal triad of green sepals. c) Radial view of the flower during the first of three days of anthesis. White petals surrounding a sun-like display of yellow stamens and ovarian disk. d) Four purple-punctate sepals reflex during florition, marking the flower as tetramerous. e) After three days of flowering, peduncles either sink or recoil in a snake-like fashion into the water to initiate fruit development. f) The water lily fruit, an aquatic berry, exhibits petal scars on its sides and a cupulate, nippled (umbonate) apex.

Unlike most aquatic plants of the Maya lowlands, *N. ampla* presents four large, green sepals during anthesis, three of which stand out prominently in a profile view of the flower (Figures 1b, d, e, 2, 4a–d, 5b, c, 6d, 7a, e, 8g, 9f) as a trident (trefoil, or Mesoamerican *fleur de lis* sensu Cohodas 1982) of calyx segments, each exhibiting dark, pigmented blotches on the their outer surface (Figure 1a, d). Portrayals of such flowers at Bonampak (Figure 4b) and on stelae

Figure 2. Maya twin mythic figures uphold and spring from *Nymphaea ampla* flowers. Note the collective use of various symbolic forms, including ***ajaw*** signs, cross bars, bird plumes, Chahk's ax and God C, to portray the water lily in a narrative context, the underlying meanings of which are still obscure. Codex style ceramic painting, provenance and date unknown. Photograph © Justin Kerr, K8498.

at Machaquilá (Figure 6d) tend to exaggerate the length of the sepals and render the white petals in a comb-like fashion (Figure 2).

True to the plant's natural form, the flower's peduncle is portrayed as a thick and supple feature (Figures 1a, e, f, 4a–c, 5a–c), stylized renderings of which sometimes tie the fleshy stalk into a single square knot (Figures 4h, 6d), a series of rounded knots (Figures 5a, 6a; Appendix 1.A1), or a herring-bone motif that is reminiscent of a linear Gordian knot (Figure 7f; the ''plaited'' or ''braided mat'' motif *sensu* Proskouriakoff 1950:64, Figures 22 A1, VIII-B1, VIII-C1; Cohodas 1982, Figure 3). Water lily flowers placed around the ankles of kings in divine regalia often lack sepals but exhibit a compact grouping of petals on the dorsal edge of the flower and a hemispherical arch of dark stipples on the flower's ventral surface (Figure 4g). This particular motif is clearly homologous to several glyphs of Classic Maya script that relate to the water lily. One of these, with a syllabic value of ***ja*** (probably derived from ***ja'***, 'water'), in some contexts stands for the word ***naab***, which can mean 'water lily,' 'handspan,' or 'lake' (Figure 3a). Two additional pictorially related glyphs are ***imix*** (Figure 3b; T501[1]; Montgomery 2002:97) and ***b'a*** (Figure 3c; T501; Montgomery 2002:39).

The Maya conventionally executed the flower in the abstract and employed a number of stylistic conventions throughout the Classic (250–900 CE) and post-Classic (900–1500 CE) periods that allow for easy identification of the motif. Both Spinden (1913:18–19) and Rands (1953) recognized two standard perspectives on the floral motif: symmetrical (Figures 4a–c, 5a–c) and asymmetrical (Figures 4e, h, 5d–f, 9a, b), both of which are associated with an herbivorous fish (Figures 4e, 6a, d) and a basal, elongated, horizontal bar (Figures 4h, i, 9c–f) that is frequently decorated with three prominent circlets (Figures 4e, i, 5f, 9f).

While the classification scheme and lengthy discussion of water lily motifs by Rands (1953) is complicated for the intentions of the present discussion, the synthesis provides an informative introduction to the symbolic meaning of the motif based on its associations with a variety of gods and divine creatures, most notably serpents of various shapes and aspects (Figures 6a–c, 7a–f, 9f), crocodiles or crocodile-faced serpents (Figures 4b, 6b, 7b–e), fish (Figures 4e, 6a, d), several

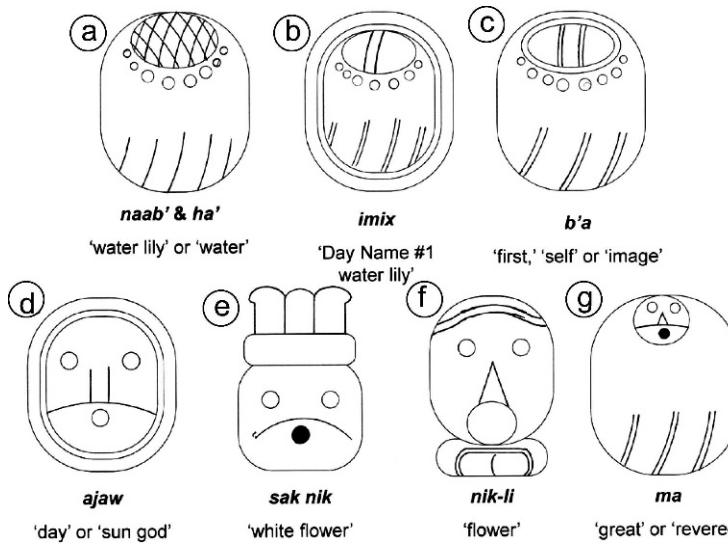

Figure 3. Variants of the water lily glyph and the flower/lord glyph. a) Water lily image (flower and/or pad) with darkened infix reads as either ***naab'*** ('water lily') or ***ha'*** ('water'). b) Water lily image in cartouche and with mirror infix is usually called ***imix***. c) Water lily image with mirror infix, read as ***b'a*** ('first,' 'self,' or 'image') and as the syllable **b'a**. d) A face (and/or flower) image in the cartouche reads as ***ajaw*** 'lord' and represents the last in the 20 day name calendar sequence. e) Conflation of two glyphs, including the ''face'' image, reads as ***sak nik***, 'white flower.' f) ''Face'' image with infixed ''cap'' reads as ***nik***, 'flower': with a mirror image as a suffix reads as –***li*** or –***il***. g) Water lily image with an infixed ''face'' image reads as the syllable ***ma*** or as the word ***ma*** 'great' or 'revered.'

aquatic birds (i.e., cormorants, herons, limpkins, ducks), a jaguar (4a), and fully or partially anthropomorphized deities (Figures 5a–f, 6a, c, 8a–h, 9a–e). The complexity of the subject is further complicated by the Maya's frequent portrayal of bizarre chimerical creatures that combine features associated with the aforementioned animals. Nevertheless, floral designs associated with these supernatural figures are consistently portrayed with sufficient precision to usually identify them as water lilies.

Linguistic and Glyphic Representations of the Water Lily

Historical and contemporary vernacular names of *N. ampla* betray a number of mythic and religious roles of the plant in antiquity. Martinez (1979:1133) identifies two widespread Spanish names for the plant that suggest a solar character –*sol de agua* and *hoja de sol*– which Hellmuth (1987 I:155) relates to the plant's preference for full sunlight in aquatic habitats. The sun-and-flower association is at least as likely attributable, however, to the flower's morphological solar aspect, the centralized golden ovary and radiate array of golden stamens suggesting the image of a beaming sun (Figure 1c); for indeed, water lilies throughout the world are frequently identified with the sun and a host of sun-gods (Goodyear 1891; McDonald 2002).

In support of this interpretation, the Maya sometimes placed an ***ajaw*** sign, a face-like symbol meaning 'lord' and related to the sun god (Figure 3d; Montgomery 2002:27), within a radial array of water lily petals (Figure 5d),

within water lily buds (Figure 2; Appendix 1.A2), and on the tips of the teeth along the water lily leaf margin (Figure 2). In Maya glyphics, the ***ajaw*** sign is likewise infixed into a water lily to form the ***ma*** glyph (Figure 3g; Montgomery 2002:166) or otherwise, when capped, translates as 'flower' (with a ***li*** suffix, sometimes present, i.e., ***nik-li*** or ***nich-il***, Figure 3f; Montgomery 2002:184). The related ***sak nik*** (or ***sak nich***) glyph ('white flower' T179, Figure 3e; Montgomery 2002:215), which conflates the glyph for white with an infixed ***ajaw*** sign, refers to the flowery soul of expired elites. Although Schele (Freidel et al. 1993:395–396) identifies the ***sak nik*** as a ceiba flower, the white flower of *Nymphaea ampla* seems to better fit the ***ajaw*** signs found on both the glyphs for 'flower' and the glyph for the syllable ***ma*** (Figure 3g), which can be described as the glyph for 'water lily' and 'water' with an ***ajaw*** sign substituting for a crosshatched oval.

Martinez records three additional Yucatec names for the plant, ***lab***, ***lòol ha'*** and ***sak-chab***, the former two seeming to reflect iconographic and mythic concepts of the plant in Maya history. ***Lab*** ('old') perhaps identifies the plant as a primordial, creative principle, since the name complements the role of the water lily glyph (***imix***) in the Maya calendar as the initiator of the 20-day count, as noted by Bishop Diego de Landa (Garibay 1966:70, 74; Puleston 1977). This floral concept of incipient time is also likely related to the glyphic sign for ***ba***, or 'first' and 'self, face' (Montgomery 2002:39), a combined water lily and mirror glyph (Figure 3c). The initial calendric position of a water lily glyph –which others have suggested to be a lily pad (Thompson 1970:73), but which we are interpreting as the water lily flower, as does Thompson (1970:72)– in addition to its Yucatec names, may also relate directly to the mythic traditions of the lowland Lacandons, who believe in a deity on the middle level of the heavens by the name of K'akoch that created the lowland Maya pantheon from a primeval flower or specifically, from the water lily according to Bruce (1967; cf. Miller and Taube 1993:184; Robicsek 1981:149; Thompson 1970:202).

The most common word for water lily, ***naab***, shares a common root with the word for lake (Schele and Miller 1986:60), the glyph for which is T501 (Figure 3a), much as the glyph for ***imix*** is a down-turned water lily flower motif, but with a mirror motif infixed in the oval centered toward the top of the motif instead of a cross-hatched oval (Figure 3b; Montgomery 2002:178), this being almost identical to the glyph for phonetic ***b'a*** (Figure 3c), but for the surrounding cartouche which makes it a day name instead of a phonetic complement. The ***nen*** and ***li*** signs (both thought to represent images of mirrors), while functioning as phonetic complements in glyph blocks mentioned in connection with glyphs related to the water lily, may be independently relevant to floral symbolism in pre-Columbian Maya iconography, as water lily buds and flowers are also frequently decorated with these signs (Figures 5b, 6d, 8a, b; Appendix 1.A3), as are deities that present the flower as their attribute (Figures 8g, h; Appendix 1.A4). These glyphic relationships are consistent with yet other names for the water lily in Yucatec (Barrera Vasquez 1980:546), such as ***nukum naab*** (big water lily), ***sak naab*** (white water lily), ***nikte' ha'*** (water flower) and ***lòol ha'*** (large flower of the water). A more peculiar but very significant name for the water lily among modern Yucatecs, ***xikin Chahk*** ('ear of Chahk'), is discussed below.

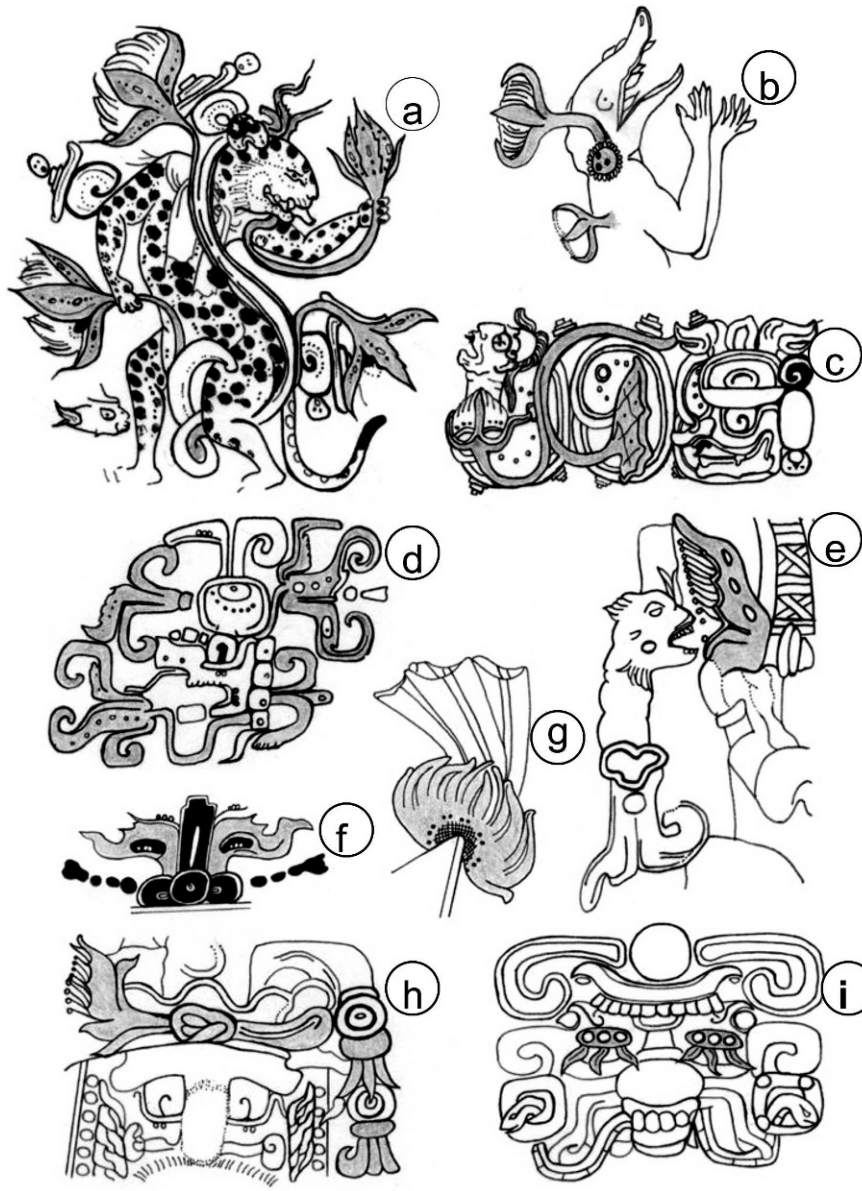

Figure 4. Variations on iconographic depictions of the water lily (flowers shaded). a) Water Lily Jaguar frolics with his signatory flowers in the company of fish. Trefoils of punctate sepals expand to reveal the polypetalous corolla; paired water signs (''shell scrolls'' and three-stacked bars) on the body of the feline connote an aquatic activity. Ceramic painting of unknown date and provenance. b) Crocodile god adorns himself with water lily flowers. A radial view of the flower bears of three dark orbs and serves as an ear plug. Mural, Bonampak, Chiapas, Mexico. c) A stylized leaf and flowering shoot emerge from an aquatic skull (WLM). The flower presents a trefoil of sepals that cradles two small radiant orbs. Palenque, Guatemala. After Maudslay (1889–1902). d) A long-nosed skull sprouts four stylized water lily flowers from his ears and cranium. All four flowers are variations on the trefoil scheme, while the cranium likely represents an ***imix*** (water lily) glyph. After Kerr 3151. e) An asymmetrical water lily with three basal orbs is consumed by a fish. Copan, Honduras. f) A stylized

Interpreting Homologous Floral Features of the Maya Pantheon

Water Lily Monster

Of several Maya entities that share a close association with the water lily, the 'Water Lily Monster' (WLM) is the most enigmatic. This creature was a popular subject of Maya ceramicists and was consistently portrayed as an aquatic, underworld skull (Figures 4c, 5, 6b, 9a) whose cranium and/or ears (rarely the eyes; Figures 4i, 5d; Appendix 1.B1) sprout forth water lily leaves, flowers, buds, and fruits. A natural denizen of the Maya underworld (Xibalbá), the WLM's iconographic attributes include a jawless skull (Figures 5c–e) or skinless mandible (Figures 4c, 5a, b, 9a), a long upper lip with snout-like qualities (with some exceptions, Figure 5a), scrolled pupils (Figures 4c, d, h, 5b, c, f, 9a), either a bald cranium (Figures 4c, d, 5a, c, 9a) or a shortly trimmed ridge of hair atop his forehead (Figures 5d–f), and large ear ornaments (Figures 4d, 5a–f, 9a). The god's cranium occasionally supports a bifid element that is usually identified as either a smoke or vegetative motif (Figure 6b, c; Appendix 1.B2).

WLM is frequently associated with a hungry fish that orients his gaping, toothed mouth toward the plant's full-blown flowers. The fish often exhibits a stylized water lily (trident and petaloid comb) for a dorsal fin (Figure 6a; Appendix 1.B3) and a bifid scroll for tail fin (Figure 4e; Appendix 1.B4), both of which are frequently displayed by the WLM (Appendix 1.B5). In addition to the fish, a variety of symbols are associated with the WLM's forehead and ear flares, such as the ***ajaw*** ('lord') sign (Figures 4c, 5b, d–f, 6c, 9c, d), a ***k'an***-cross (meaning 'yellow' or 'precious'; Figure 5e, f; Appendix 1.B6), and several water symbols, including three-stacked bars (Figures 4c, 5a; Appendix 1.B7), ''shell scrolls'' (Figure 5a, b, e; Appendix 1.B8), or groupings of liquid droplets (Figure 5b–f; Appendix 1.B9). The small and clustered liquid drops, often identified as a sacramental liquid known as ***itz*** (see below), should not be confused with the three prominent circlets that are often observed at the base of the god's flowers and fruits, which are often enclosed within a horizontal bar (Figures 4e, f, i, 5f, 9f; Appendix 1.B10).

While the facial and floral details of the WLM vary considerably, the leaves are portrayed in a very conventional manner. The cranium's leaf pads are generally rotund and do not typically exhibit the blade's basal cleft (Figures 1e, 4c, 5a, b). True to the plant's natural form (Figure 1), the lamina displays a series of rounded teeth along the margins (Figures 2, 5a, 6a; Appendix 1.B11), which Maya artisans frequently portrayed stylistically as three or four lumpy protuberances along the margin of a half-folded blade (Figure 4c; Appendix

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trefoil ceramic painting typifies symbolic portrayals of the water lily. Note three orbs form the base of the flower. Ceramic, Tikal Museum, Guatemala. g) The ***imix*** glyph is based on a water lily motif and frequently occurs on shields and ankle straps. The polypetalous corolla extends from a hemispherical arch of stipples. Copan, Honduras. h) An asymmetrical flower with a knotted peduncle adorns a Chahk mask. An extension of the peduncle loop dangles two 'white flower' (***nik te ha***) motifs, reflecting the opposing water lily. Copan, Honduras. i) A WLM/Cauac mask presents water lily trefoils for eyes. The triple-orb pad serves as a floral eyebrow. Peduncles that frequently stream from the mouth are replaced with serpents. Tikal, Guatemala.

1.B12). Each rounded tooth is occasionally associated with an ***ajaw*** facial motif (Figure 2), while a mesh of interwoven veins on the undersurface of the blade creates a tightly configured mosaic of rhomboidal or polygonal segments (Figures 2, 4c, 5a, b, 6a). Inside each polygon is often observed a prominent dark spot, ostensibly representing dark-purple blotches that naturally cover the undersurface of *N. ampla* leaves (Figure 1a).

WLM's long, tubular peduncles are decidedly serpentoid in character (Figures 4a, c, d, h, 5b, c, 8g) and extend beyond the creature's face, usually making right-angled turns before terminating in a floral or fruiting structure. Flowering stalks usually diverge in pairs and conventionally extend to opposite poles of the cranium, their bases attaching to the skull by a series of sheaths and/or knots (Figures 4c, 5a–c). At the tips of each peduncle are borne solitary flowers in various stages of anthesis: i.e., as a bud, full-blown or spent flower (Figure 1a–e). Symmetrical flower designs can be described as deltoid (Figure 4a, c, g, 5a) or cupular (Figures 4b, 5b, c, 8g), but these are often rendered in the abstract as permutations on the trident (Figures 4d, f, h, 7a, 9a–d).

An alternative rendering of the flower employs an asymmetrical design, whereby the peduncle articulates at one side of a triad of unequal sepals (Figures 4e, h, 5d–f). In these depictions a series of petals extend across a horizontal plane as a comb-like structure with short teeth. Maya artists often placed two darkened or cross-hatched, semi-orbicular structures at the base of the three sepals (Figures 2, 4c, 5a–c; Appendix 1.B13) often exhibiting radiate striations that may suggest brilliance. The meaning of the paired semi-circles is obscure, but they appear to represent the flower's bulbous, inferior ovary (Figure 1f).

WLM normally manifests himself in full bloom but his flowering stalks occasionally alternate with budding (Figures 5b, 6a) or fruiting stalks (Figure 5c). Although fruits are rarely portrayed, some peduncles terminate in an ellipsoid structure bearing an umbonate (nippled) apex, a prominent feature of water lily berries during fruition (Figure 1f).

Water Lily Serpent

Most facial features associated with the WLM, such as the long and bent snout, scrolled pupils, closely cropped hair, and water lily ear ornament, are shared collectively by another important denizen of Xibalbá that exhibits intimate iconographic relations with the WLM: 'Water Lily Serpent' (WLS). The close association of these aquatic forms on ceramics (Figures 6, 7) suggests that the WLM possibly represents a decapitated head of the WLS, as one might surmise from several polychrome ceramics (for example Figure 6a) that clearly identify the head of the WLM with the head of a plumed WLS. Notwithstanding the separation of these images and some subtle iconographic distinctions (i.e., the skull exhibiting water lily roots and a ***kan***-cross on the forehead, as well as leaves and flower buds on his cranium, while the serpent's head bears a knotted peduncle and an open flower), the basic structure and features of the two faces are suspiciously similar. While the two fishes in the image in Figure 6a orient themselves toward the open flowers of the WLS, on most ceramics they consume the flowers of WLM (Appendix 1.C1). It is also noteworthy that the fish

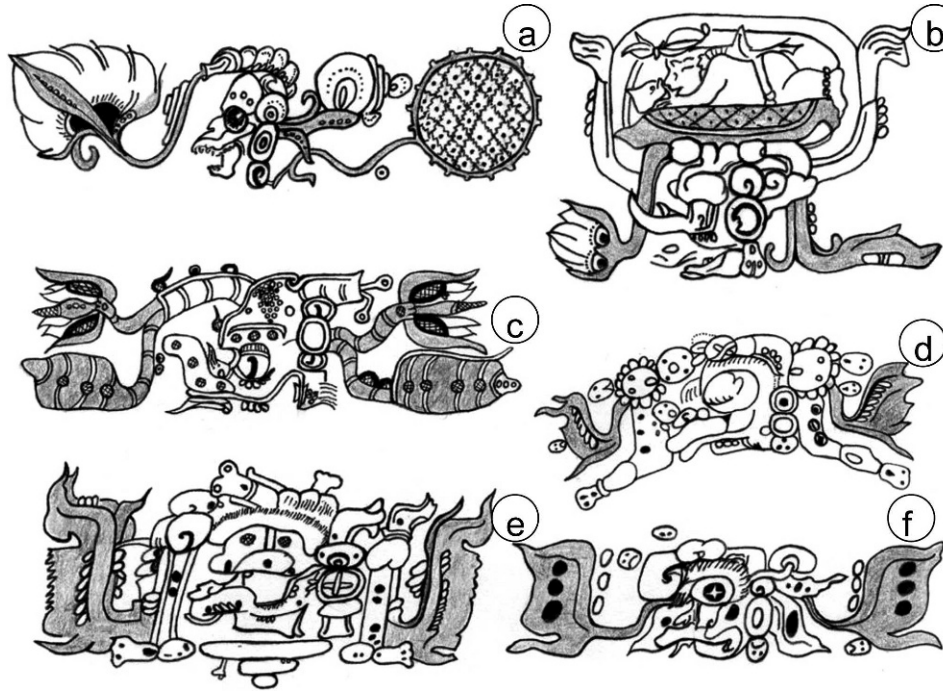

Figure 5. Variant renderings of Water Lily Monster (flowers shaded). a) Pug-nosed WLM with deltoid flower, punctate sepals, and trefoil ear flare. After Kerr 5961. b) Long-snouted WLM with water lily ear flare. Note the bud is marked by the ***nen*** ('mirror') sign. A deity blows a conch while prostrating himself across a water lily leaf. After Kerr 7146. c) A jawless WLM produces two flowers, one of which extends from an ear flare and two bear nippled fruits on recurved peduncles. After Kerr 8621. d) The WLM is often covered with many solar ***ajaw*** signs that are surrounded by stylized petals. A ***k'an*** cross is observed upon his head. Tikal Museum, Guatemala. e) This WLM produces two stylized, asymmetrical flowers. After Kerr 6426. f) Asymmetrical flowers flank this short-haired, snaggle-toothed WLM. A ***k'an*** cross decorates his forehead and three prominent orbs occur within and to the side of the flower. After Kerr 6616.

positioned on the posterior end of the serpent is consuming plumes on the serpent's back, these presumably relating to the feathery petals on the serpent's head. This interpretation is supported by the widespread and enduring iconographic practice of placing clusters of quetzal feathers within water lily corollas (Figures 2, 7a, 9b; Appendix 1.C2) and the presence of a bar with three circlets below the feathers (Figures 4f, i; Appendix 1.C3).

The same facial features of the WLM and WLS are also shared by a bicephalic serpent with a crocodile head (Figure 6b), whose contorted body bears a stylized water lily in lieu of plumes on the crest of his middle coil. God K (K'awil) is observed emerging from the serpent's mouth (Figure 6b) while the head of WLM is attached to the reptile's tail, the serpent and WLM presenting water lily motifs for ears. These same water lilies are observed erupting from the ear flares of the bicephalic serpent on other ceramics and stelae (Figures 6b, c, 7; Appendix 1.C4), which art historians have conventionally characterized as mere ''ear ornaments'' or ''foliage elements'' (Cohodas 1982, Figures 2, 6) since the early commentaries

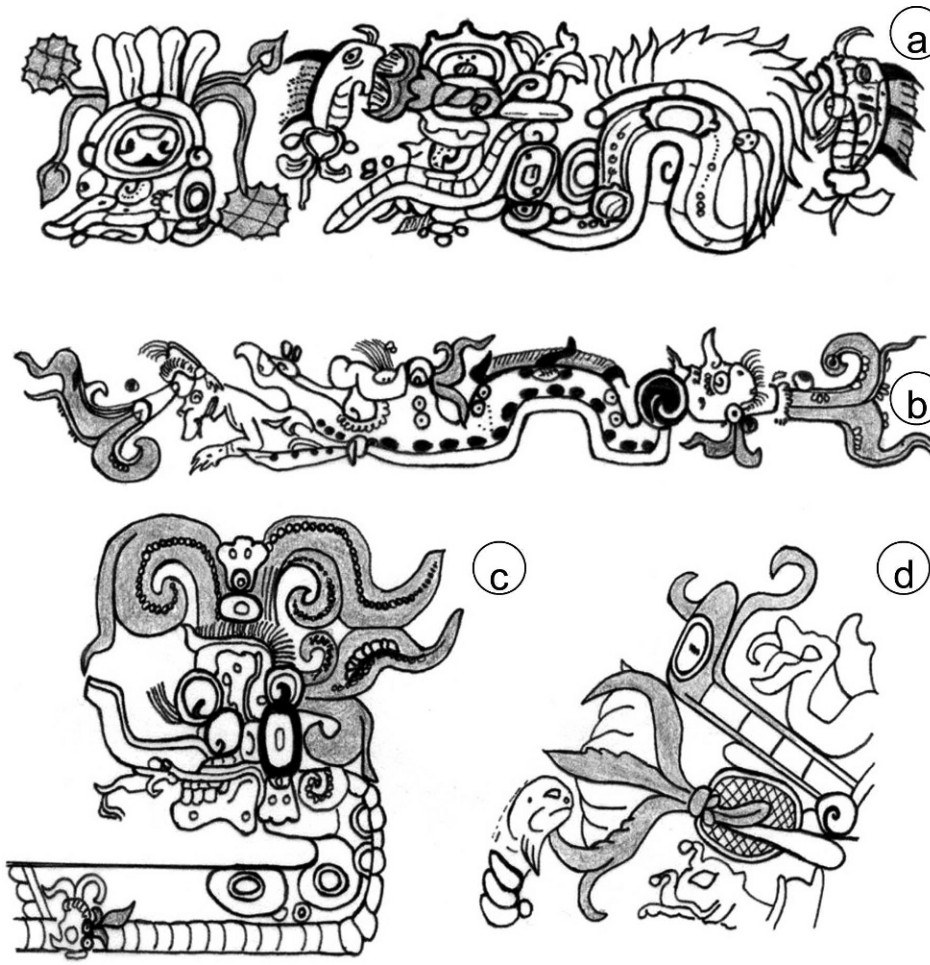

Figure 6. Associations of Water Lily Monster and Water Lily Serpent (flowers shaded). a) A long-nosed WLS faces the skull of the WLM. Few distinctions are observed in their facial features. Note that the posterior fish nibbles on the plumes of the serpent's body, which are apparently symbolic of the flower's petals. After Kerr 1162. b) A crocodile-headed serpent with a full-blown water lily on its back bears a water lily trefoil as an ear flare and the WLM on its tail. After Kerr 1834. c) The WLM with a water lily ear flare assumes his standard position at the tail end of a bicephalic serpent. Tikal, Guatemala Museum, Guatemala. d) An abstract rendering of the WLS takes the form of a tubular sky band with a water lily bud at its tip. The motif rests upon a stylized water lily leaf and realistic rendering of a flower. Machaquilá, Guatemala Museum, Guatemala.

by Spinden (1913:40, Figure 30). The placement of the WLM's head on the tail-end of the serpent is also a recurrent motif, as such is observed on a mythic serpent on narrative vase paintings (Figure 7b–e) and a plumed serpent that once adorned a well-known wooden lintel at Tikal (Figure 6c). Tikal's sacred serpent supports a cosmic bird on his medial coil instead of a water lily flower and terminates on one end with a WLM, the skull producing a prominent water lily as an ear flare.

Too little is understood at present about classical Maya symbolism and mythology to state unequivocally whether the WLM and WLS are different entities of the Maya pantheon or alternative aspects of the same being. In fact, this same admission applies to many other members of the Maya pantheon, there being little symbolic distinction, for example, between a plumed serpent and a featherless serpent that supports a sun-bird (***Itzam Ye***) upon his upper coil. Similarly, multiple Maya deities share specific features that are sometimes considered diagnostic features of a particular god, such as scrolled pupils, extended noses (Schele and Mathews 1998:46), bony mandibles, a frontal snaggle-tooth, jaguar spots, ***nen***-signs on the body or forehead, and such. A substantial number of gods can exhibit animal characteristics that are conventionally identified as the signature attribute of a different deity; for instance, the cosmic serpent/caiman is equally identified, whether nominally or iconographically, with Itzamná (God D; de la Garza 1998:236–237; Taube 1992:35, 38–39) and Chahk (God B; de la Garza 1998:238; Taube 1992:19–23), yet a similar serpent is also associated with the sun-god, K'inich Ajaw (God G; de la Garza 1998:236, 238) and the left leg of Kawil (God K; de la Garza 1998:241–243; Taube 1992:73, 76). To make sense of the apparently interchangeable use of these symbolic signatures, de la Garza (1998:216) suggests that all these deities might represent transformative manifestations of a single, supreme god.

In a similar vein, the apparent lack of consistent distinctions between Maya gods is reflected in mythology, as it is widely acknowledged that the *Popol Vuh* (Tedlock 1996) begins its enigmatic narrative with a list of names for the World Creator(s), including Feathered Serpent, Hunahpu Possum, Hunahpu Coyote, Great White Peccary, Bowl Shaper, and Two Matchmakers, leaving modern translators unsure if these deities represent one omniform entity or different members of a close-knit pantheon.

While most images of the WLS have no direct linkage to the WLM, they conventionally exhibit a prominent floral element, here identified as a water lily, as an ear attachment or what many Mayanists have dubbed the ''ear flare'' (Figure 7a–f). Hellmuth (1986, 1987) and Taube (1986) note that Structure I at Dzibilchaltun is devoted specifically to WLS (Taube 1992:59) and that this structure and its prototypes date from the Classic period (7th century). Much like the WLM (Schele and Miller 1986:46), this and other WLSs are associated with the number 13 and the 360-day 'year' sign, ***tun*** (Miller and Taube 1993:148, 184). The face of this god exhibits most of the basic attributes of WLM –including a downward curved, beak-like nose, sometimes a ***k'an*** cross (but in this case, positioned within the lower jaw), a water lily pad and flower for a headdress with a nibbling fish, and a teary eye with scrolled pupil– but the face is conventionally recognized as the popular god of ancient and contemporary times known by the Yucatec Maya as Chahk (see below). This standard facial motif was often worn as a headdress by Classic Maya kings (Miller and Taube 1993:184–185; Taube 1992, Figure 26b).

Although a water lily flower replaces the head of the serpent on a king's headdresses at Machaquilá (Figure 6d; Just 2007), presumably to identify the dynast as a representative of this divine figure, WLS normally presents a prominent water lily bud or flower as an ear (Figure 7). This prominent and

conventional vegetative feature has rarely caught the attention of Mayanists, and its potentially critical significance is usually overlooked.

The floral ear flare is normally composed of four parts, including (1) a central, four-cornered, rotund, elliptical or rectangular plug that makes direct contact with the skull (Figures 4c, 5a, c, d, 6a, 7d), (2) an attached, rotund or three-lobed feature with a coiled stem-like structure that attaches to the center of the motif (Figures 4c, 5a–c, 6a, c, 7b, c, e, f, 8a, b), often called a ''shell scroll'' (Schele and Miller 1986:47, Figure 28) or ''hooked cartouche'' (Coggins 1983:65, Figure 3a, b), (3) a pendant, inverted ***ajaw***-symbol (Figures 4c, 5b, d, f, 6c, 9a–d; Appendix 1.C5), and lastly, (4) a prominent water lily trident that dangles from, or sweeps behind, the serpent's head (Figures 4d, 5, 6b, c, 7).

The meanings of these motifs are debatable, but we suggest that they relate directly or indirectly to the most prominent of these features, the floral element, and perhaps that their iconographic antecedents share features of the Late Preclassic Period (100 BC) at Kaminaljuyu, Guatemala (Schele and Miller 1986:109, Figure 11.2), where there seems to be a relatively clear rendering of a water lily flower on its stem. The significance of the ***ajaw***-sign, if considered to be symbolically related to the sun, is self-explanatory, as the fertile yellow structures within a water lily flower exhibit the distinct aspect of an iconic sun. The central motif of the Kaminaljuyu image may symbolize an ***ol*** portal (see below), while the ''hooked cartouche'' or three-lobed ''shell scroll'' likely represents a water lily leaf instead of a shell, for we observe this design on the surface of water, occasionally bearing dark spots (Coggins 1983:65, 66, Figures 3b, 6a; Schele and Miller 1986:45, Figure 23), suggesting a blade with a petiole articulating at its center as a plausible interpretation (Appendix 1.C6).

The identification of the ***sak nik*** sign (Figures 3e, 4h, 9b–e; see also Montgomery 2002:215) as 'white flower' (cf. Freidel et al. 1993:440–441), and our recognition that this symbol likely represents a white water lily, while also symbolizing a person's soul that has been ''diminished'' or ''ended'' upon death (Freidel et al. 1993:183, Figure 4:2), necessitates a re-evaluation of the plant's role in Maya cosmology and ritual. Since the glyph represents a critical concept in Maya belief systems regarding both incipient and natural time (i.e., ***tun*** = year cycle), as well as the hereafter, we might plausibly assume the water lily exemplified, or indeed embodied, life forces of the natural world. As such, several dynasts adopted titles that identified them directly with the flower, such as 'Sun-face Sacred Lord Macaw Water Lily' (Kinich Ahkal Mo' Naab), 'Sun-face Water Lily Flower Shield' (Kinich Janaab Pakal), 'Lady Water Lily Sprout' (Ix Kook-Naab) and 'Lady White Sprout' (Ix Sak Kook) of Palenque, or Water Lily Jaguar (Balam-Nan) and 'Smoke Water Lily Kawil' (K'ak-Naab-K'awil) at Copan.

The ***sak-nik*** sign is also intimately associated with the zoomorphic symbol of the aquatic plant, the WLS, insofar as this motif frequently produces an image identified as ''white flower'' (trident and basal cartouche) at the tip of the snake's nose or upper-lip (Copan, Stela H; Freidel et al. 1993:218, 278, Figures 4:2d, 6:17) or end of his tail at Palenque, Copan, Chichen Itzá, Tikal and Quirigua (Appendix 1.C7), as noted by Schele and Mathews (1998:114). We observe occasionally the ***sak-nik*** or related motif at opposite ends of pectoral bars (''cartouche with *fleur de lis*,'' *sensu* Cohodas 1982), in which case they replace the

standard snake heads of a serpent-form pectoral or ***sak***-pectoral (Freidel et al. 1993:374; Looper 2003:104–105, Figures 3.31, 3.32), drawing once again a close iconographic connection between the water lily and serpent. A similar motif is observed on ceramics that depict a Maya priest, usually wearing a headdress and jaguar-skin skirt, upholding a long tube with opposing lotus flowers and trefoils on opposite ends (the vision tube), through which emerges a conjuring serpent (Appendix 1.C8). Such associations are consistent with the present view that the aquatic serpent/water lily serves as a conduit between the middle-world (natural world) and the aquatic underworld of the gods, yet few scholars have appreciated the direct relationship between the ***sak-nik*** glyph and the water lily trefoil of the plumed serpent.

As in all symbolism, we are compelled to ask ourselves if the flower is symbolic of the serpent, or otherwise: if the serpent is symbolic of the plant. Historians have always emphasized the significance of the serpent, but this owes to our perception of water lily motifs as a decorative embellishment rather than a focal object of devotion. Since water lily (*Nymphaea*) and lotus (*Nelumbo*) imagery in Egypt, the Middle and Far East also have ophidian associations and can reasonably be understood in terms of the plant's vegetative structures behaviors, the peduncles and rhizomes exhibiting serpentine characteristics (Bosch 1960; Goodyear 1891; McDonald 2002, 2004), it is not unreasonable to assume that these associations apply as well to Maya iconography. Indeed, a thick, fleshy peduncle that arises from the water with a swollen bud bears the distinct aspect of an ascendant serpent; while no less so, a recoiling water lily peduncle following anthesis suggests the image of a recoiling serpent (Figure 1e). In this light, the serpent can easily be interpreted as a water lily peduncle, as both forms are apt to writhe their way from an aquatic underworld to the sky (Figures 4a, c, h, 6c, 7, 8f, 9f), thereby identifying the plant itself as the conduit *par excellence* between the supernatural world of Xibalbá and the natural world of the Maya.

Just as gods appear before aristocrats through the body and maw of the WLS, in like fashion, they also emerge directly from serpentoid peduncles and water lily flowers (Figure 4c) on murals at Chichen Itzá, Palenque, Uxmal, and Jaina, and on ceramics (Appendix 1.C9). Movement through the serpent's body from the underworld and re-emergence to the living world through a portal of the gods –the creature's gaping mouth (i.e., opposite the flower)– apparently allowed Maya gods and ancestors to make contact and communicate with Maya dynasts through the creature's conduit body (the water lily's peduncle; Figures 4c, 7b–e, 9f). On numerous occasions the body of the serpent has been envisaged as an umbilical of the gods (Schele and Mathews 1998:44–45), with parturition occurring through the serpent's mouth or through the serpent's 'white flower' (Schele and Mathews 1998:154–155, 281, 370, n. 43).

One Maya glyph for 'portal' (i.e., an opening to the Maya underworld, T769a) seems to support this novel interpretation, inasmuch as the sign for entryway into Xibalbá is often associated with a skinless, toothed mandible of the cosmic serpent (Montgomery 2002:266), frontal views of which frequently emphasize the creature's water lily ear ornaments (Figures 8a–f, 9c, d). A synonymous logographic glyph for a portal, or ***way*** (T539v), is the 'half

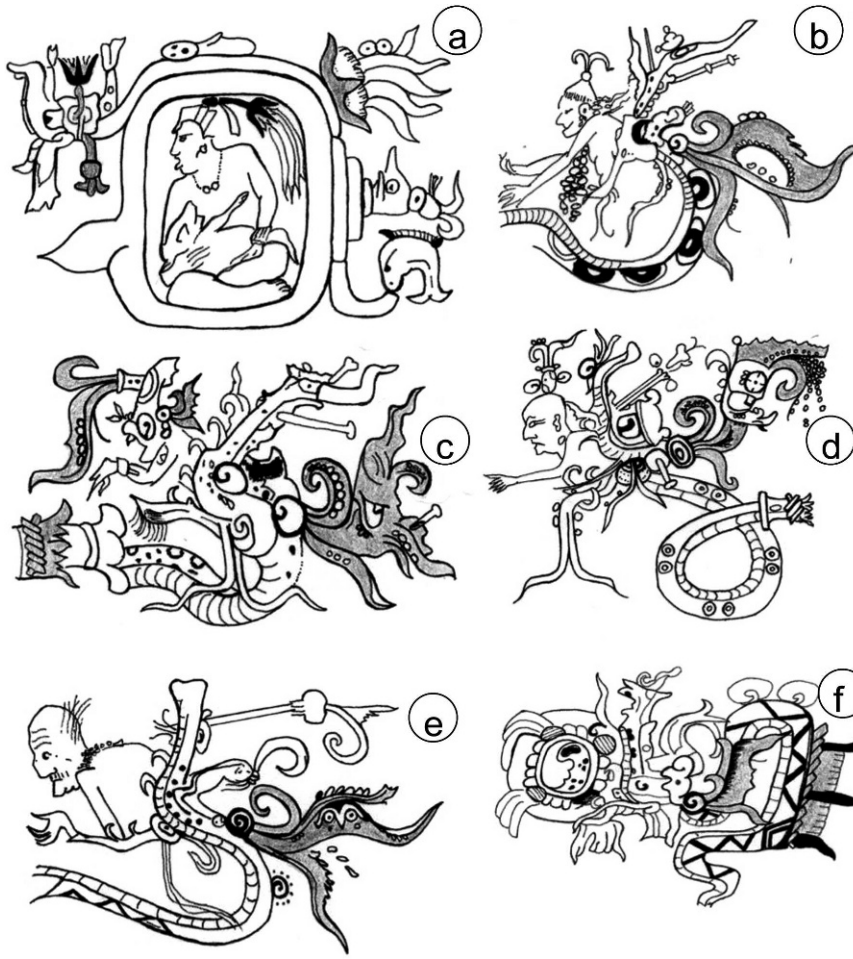

Figure 7. Variations on the Water Lily Serpent (flowers shaded). a) An anthropomorphic deity cradles a peccary within the coils of a WLS. Note the opposing water lily and iconographic 'white flower' (***sak-nik***) ear flares of the serpent, and plumes emerging from a water lily on the serpent's backside. After Kerr 8685. b) A WLS with a massive water lily ear flare disgorges an ancestor. After Kerr 5164. c) God C, the image of sanctity, personifies this WLS's ear flare. After Kerr 1604. d) A variation of Figure 4C portrays God C as the personification of a water lily ear flare. A frontal view of this god is observed in a water lily bud in Figure 2. Note the floral sign on his forehead and nectar (***itz***) that spills from this sign. After Kerr 4114. e) An ancestor emerges from the maw of a WLS. After Kerr 4485. f) A WLS with floral ear flare and stylized flower on its back disgorges a warrior's symbolic shield. After Kerr 1184.

covered ***ajaw***' while an alternative glyph and term for the portal, ***ol***, as 'heart, center, middle', is frequently depicted as a four-lobed flower. Described as a quatrefoil or quadrilobate medallion (Baudez 1994:260, Figures 114 A–C; Reents-Budet 1998:275, Figure 6.47, Pl. 85; Schele and Mathews 1998:414), this motif is often interpreted in the literature as a cave (Baudez 1994:262; Hellmuth 1987 II: Figures 43 e, f, II) or a jaguar or serpent mouth (Stross 1996), but such interpretations ignore the floral appearance of the mystical opening.

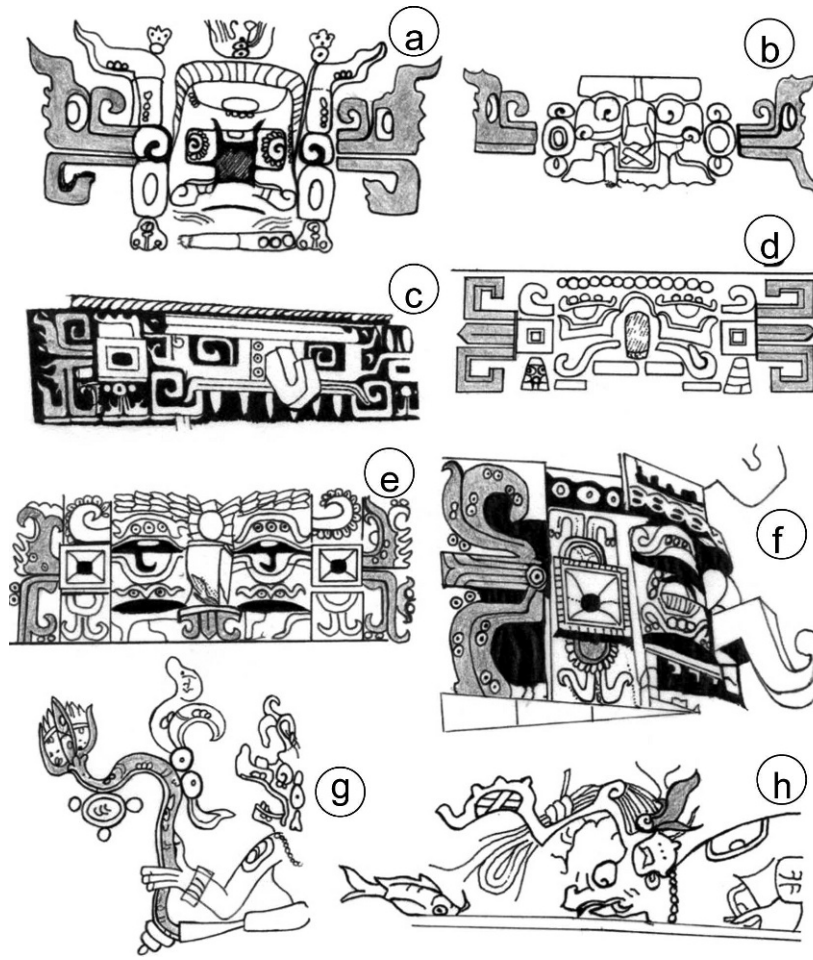

Figure 8. Variations on Chahk faces (water lily flowers shaded). a) Numerous Chahk masks resembling the frontal view of a WLM at Copan present trefoil water lilies with ***nen*** signs. Copan, Honduras. b) A long nosed Chahk mask exhibits two prominent water lily ear flares and a ***kan***-cross (cross bands?) for a maw. Copan, Honduras. c) Water lily ears of Chahk occasionally present four sepals. Hochob, Campeche, Mexico. d) The floral trident of Chahk's ears often presents a straight sepal in between two recurved sepals. Chichen Itza, Yucatan, Mexico. e) Abstract floral designs decorate the ear flares of Chahk in the Puuc region of Mexico. Note the eyes exhibit a scrolled pupil and the ear flare on the right is marked with the symbol of the flower (trident with two cradled circles). Uxmal, Yucatan, Mexico. f) Chahk cornerstone exhibits a water lily ear flare with four sepals and an ear flare with a hemispherical, radial view of the flower. Uxmal, Yucatan, Mexico. g) An anthropomorphized Chahk with the facial features of the WLM upholds a serpentoid water lily peduncle. A ***nen*** ('mirror') sign is attached to the god's shoulder. Dzibilchaltun, Dzibilchaltun Museum, Yucatan, Mexico. h) Chahk-Xib-Chahk bears a water lily ear flare while emerging on his canoe from Xibalbá. Tikal, Guatemala.

Moreover, given that the central portion of the water lily flower is yellow and likely to symbolically represent the sun, it is useful here to suggest that in fact the Maya glyph for the sun (***k'in*** T544) plausibly has its origins in *Nymphaea ampla*.

While Thompson (1950:142) and Milbrath (1999:58) suggest the ***k'in*** glyph represents a frangipani flower (*Plumeria* sp.), this interpretation is problematic from a botanical viewpoint, given that the latter flower is pentamerous and that the plant's highly unique, succulent stems with prominent leaf scars are never encountered in vegetative imagery of the Maya. On the other hand, the tetramerous, sun-like flower matches closely with distinctive water lily features, and occur throughout Mesoamerica as symbols and tokens of natural creation, plant life, cyclic time, as well as solar and planetary cycles (Coggins 1980).

Chahk: A Frontal Perspective of the Serpent Maw or WLM

The symbolic framework of Maya temple entrances are often fashioned in the image of the gaping mouth of the ''great reptilian monster'' (Freidel et al. 1993:370; Schele 1998:482, 484, 494; Stross 2006:6), as may be observed on principal structures at Chicanná, Hochob, Hormiguero, Río Bec, and Uxmal (Gendrop 1980). Modern Yucatecs and Mayanists identify several instances of this open-mouthed creature as Chahk (de la Garza, 1998:241; Kowalski 1998:401, 406; Markman and Markman 1989:85; Miller 1999:138), a rain-god in the present age whose past roles and religious significance are as complex as they are enigmatic. Facial images of Chahk on Maya temples, which Schellhas (1904:16–19) and Taube (1992:17) have identified as God B of the codices, are conventionally represented in the codices by a long, pendant nose with an upturned tip, much as we observe on temple panels and doorways (Figure 8a–f), and lateral fangs that protrude from the sides of his mouth (Figure 8a, b, d). This god appears 134 times in the Dresden Codex, and frequently so with a body marked by mirrors (Figure 8g–h), not unlike water lily flowers (Figures 5b, 8a–b). However, in the Dresden Codex (pp. 35b–37b), a sequence of Chahk images identifies this god as the feathered serpent with a water lily ear flare (Madrid Codex pg. 4A, 12B; de la Garza 1998:241–242), just as the earliest known employment of Chahk faces on stucco temple facades at Dzibilchaltun (Structure 1-sub, the Temple of Seven Dolls; Coggins 1983) links a series of eight Chahk faces surrounding the structure by the coils of a polycephalic, cosmic serpent.

Since archaeologists have always identified these faces as those of the WLS, one can conclude the original use of a long-snouted Chahk face as an architectural motif associates this facial feature with a reptilian/vegetative motif. This perspective is supported by an interesting, undated ceramic from Dzibilchaltun's museum that depicts a fully personified god with Chahk's face upholding a water lily stalk whose peduncle displays many conventional features of the cosmic serpent: i.e., undulating stem, water signs, liquid droplets, and an image of the 'Shell Wing Dragon' (Figure 8g; *sensu* Hellmuth 1987 I:147–148, II: Figure 83a–c), a symbol of the WLS on the headdresses of aristocrats at Machaquilá (Figure 6d). In this respect, it is notable that Taube (1992:56, Figure 26a) identifies an image of the Dresden Codex (35b) that conflates the Chahk face with a serpent's body as a ''Chahk Serpent,'' this association conforming with a large body of oral literature and scholarly interpretations with respect to various Mayan languages as well as to the rest of Mesoamerica which strongly identify the lightning-rain deity with serpents (Govers 2006:308; Lipp 1991:29, 49; Madsen

1955:51; Miller and Taube 1993:150; Monaghan 1995:106–7; Taube 1992:19; Thompson 1970:268; Vogt and Stuart 2005:166).

Apart from the floral ear flares, there is hardly a single feature of the Chahk mask that is not exhibited by the face of WLM and WLS. All three forms exhibit a long snout, scrolled pupils, prominent mandible, bald cranium or shortly cropped hairline, water-signs, and, as already noted, ear flares that bear a shell motif and water lily, requiring that we justify our perceived, clear-cut distinctions between these three common icons. Or alternatively, might not the Classic period Chahk motif simply represent a frontal view of the earth monster and plumed serpent face?

With regard to anthropomorphic forms of Chahk, the most informative specimens are encountered on painted ceramic vases (Figure 8g). Much as the personified Chahk image at Dzibilchaltun, the god's anthropomorphic aspect is usually identified with water in the aspect of a paddler twin (Figure 8h), suggesting to some scholars a god that moves ''through the sky and the watery underworld'' (Milbrath 1999:202).

Although facial interpretations of Chahk on temple entrances, walls, and cornerstones have been identified as a variety of Maya deities, there is one particular detail of the image that draws a direct connection with the WLM and WLS. One of many epithets for the water lily in modern Yucatec is ***xikin Chahk***, or 'ear of Chahk,' and this specific feature is usually more conspicuous on Chahk faces than the prominent snout (Figure 8a–f). In fact, floral motifs that conventionally extend from the mask's ear flares usually occupy as much or more space than the face itself (Figure 8a, d, f). While most water lily designs employ the conventional three-part motif (Figure 8a, b, d), some with ***nen*** ('mirror') signs fixed to the central sepal (Figure 8a, b), there are variants of this motif. The floral ear flares of Chahk at Uxmal, for example, occasionally exhibit four sepals (Figures 8e, f; Appendix 1.D1) and are associated with hemispherical floral motifs above or below the flare (Figure 8f; compare the petalled hemispherical ornament with a sun-faced radial flower of the WLM in Figure 5d).

Fully anthropomorphized, iconographically narrative (i.e., mythic) images of Chahk are often identified by such glyphic references as ***Chahk Xib' Chahk***, ***Ux B'olon Chahk***, '***O'Ohl Chahk***, and ***Yax Ha'al Chahk*** (Looper 2003:29), and these figures exhibit facial characteristics that are somewhat inconsistent with standard features of the Chahk mask (Figure 8g, h). For example, a long hank of bundled hair that dangles in front of the god's face is a standard feature of ***Chahk-Xib-Chahk***, as is a stalked feature on his head that modern scholars call a ''shell diadem.'' And while ***Chahk-Xib-Chahk*** usually lacks a long and upturned nose, the same small nose is sometimes exhibited by the WLM (Figure 5a; Appendix 1.D2). Not unlike WLS, the body of ***Chahk-Xib-Chahk*** is sometimes reptilian in nature and frequently covered with water scrolls and ***nen*** signs (Figure 8g, h). He customarily wields a bulbous staff that modern scholars are inclined to interpret as a lightning bolt, perhaps because modern Mayan languages (such as Ch'ol and Yucatec) employ the term ***chahk*** for a lightning bolt (Bassie 2002:9; Taube 1992:17). Nevertheless, the swollen rod tip exhibits no discernible likeness to a lightning bolt and frequently bears a mirror sign (a motif associated with water lilies) while seeming to terminate in a water lily flower (Figure 2; Appendix 1.D3).

Given the frequent occurrence of ***Chahk-Xib-Chahk*** images on painted ceramics and the widespread practice of dressing Maya kings in the garb of this god, there can be little doubt that this aquatic/floral deity played a central role in Maya mythology and ritualistic practices. A son of Pakal at Palenque, K'inich K'an Joy Chitam, apparently assumes the identity of this god on a stucco panel, where he wields the standard axe of Chahk and dons the distinctive diadem of the god (Schele and Miller 1986:275; Stuart and Stuart 2008, Figure 11). A water lily bud grows from the back of the dynast's head in the same manner that it emerges from behind the head of conjuring serpents (Figure 8h). It is also noteworthy that the serpent-head on the handle of the battle axe presents a water lily flower as an ear flare.

Quadripartite God, Badge and Symbol

The Quadripartite God (Figure 9b–e), identified by Schele and Freidel (1990:415) as representing ''the sun as it travels on its daily journey through the cosmos,'' is another disembodied, aquatic skull that bears all the standard attributes of the WLM, but distinctly wears a headdress referred to as the ''quadripartite badge.'' The badge displays four prominent symbols: a bowl bearing a ***nikte'*** ('flower'; Figure 9b) or ***k'in*** glyph ('solar'; Figure 9c–e), a variously shaped, centrally placed triangular motif (Figure 9b–d) that art historians identify as a stingray spine or shark's tooth (Callaway 2006:45), an asymmetrical shell motif that usually exhibits three or four marginal protrusions on the outer border (Callaway 2006:45), and a vegetative motif composed of trefoil/trident subtended by a horizontal bar and a basal ellipsis (i.e., standard iconographic features of the Maya water lily among other things). This motif suggests a ***sak*** glyph (meaning 'white,' 'resplendent,' or 'pure'; Montgomery 2002:213, 215) but often (and otherwise) presents crossed bands within the ellipsis (Figure 8a–c; Freidel and Schele 1988:66; Helmuth 1988, Figure 4.11a,c), much as we observe on occasions within ceramic depictions of water lily flowers and fruits (Figure 2; Appendix 1.D4). Thus, it seems plausible that the motif represents a white *Nymphaea ampla* flower, as may also the ***sak-nik*** glyph (Figure 3e; Montgomery 2002:215), which is identical to the quadripartite badge element but replaces the crossed-bands with a solar ***ajaw*** sign.

In House E of the Palace at Palenque the crossed bands in the cartouche are lacking, but the basal bands with three circlets insure us that the standard cartouche with trident are indeed a water lily motif (Maudslay 1889–1902:4: pl. 43), and that this widespread sign shares a close symbolic relationship with the ***sak-nik*** motif. The quadripartite badge (i.e., configuration of the four symbols) occurs in a variety of symbolic contexts: at the posterior end of the bicephalic Cosmic Monster, as a headdress on a god with fish barbels known as G-1 at Palenque (Callaway 2006:47; identified as a lightning deity, Bassie 2008), at the base of the world tree (Freidel et al. 1993:218), and on scepters and headdresses. This badge apparently played a role in ritual, as it frequently appears in the hands and crowns of elites on Maya temples.

The homologous features of the WLM and what is often called the Quadripartite God with his quadripartite badge headdress are exhibited clearly on ceramic paintings (Figure 9a, b, respectively), where both faces exhibit long and upturned noses, toothed maxillas, scrolled pupils with three small dots below the

eyes, nearly identical ear flares, and very similar water lily stalks trailing the backside of the ear. While the WLM normally supports a stylized tripartite floral element with crossed bands (with Thompson's ''water sign'') on his head, this is replaced by the ***k'in*** bowl or what has been identified as a floral element usually with crossed bands, a stingray spine, and a shell (*Spondylus* sp.) on the skull of the Quadripartite God. The floral element of the Quadripartite God with crossed bands likely relates to the placement of crossbands in the water lily bud in Figure 2 and recalls a similar floral element with a cross motif subtending the water lily symbol on the forehead of the WLM (Figure 5f; Appendix 1.D5).

In the Temple of the Cross and on the sarcophagus lid at Palenque, similar depictions of the Quadripartite God and his badge (Figure 9c, d) present a frontal perspective, as noted by Kelley (1965, Figures 46, 49). However, in these renderings the ear flare is more stylized and seems to present only two sepals, as we observe on Pakal's sarcophagus lid (Figure 9d; Appendix 1.D6). It is also noteworthy that the bearded jaw bone encircling the Quadripartite God on Pakal's sarcophagus lid suggests the god is emerging from the jaw of a cosmic dragon (a portal), just as Pakal himself can be seen falling within this jaw, as is currently the general consensus, while fixed between the world tree and realms of Xibalbá (Schele and Miller 1986:294, Pl. 111). In this image, once again, one is tempted to interpret the WLM, Quadripartite God and gaping serpent as aspects of the same entity.

Few Mayanists contest David Stuart's assumption that, ''The Sun connection of the Quadripartite God seems clear enough, but it must be a specialized aspect of the Sun, since the god is not known as a general Sun deity'' (Stuart 1988:201). Yet the Quadripartite God also embodies the same seemingly paradoxical concept as the WLM and feathered serpent, representing a solar (celestial) god while living in an aquatic underworld. This apparent contradiction seems to resolve itself if we consider the physical and behavioral relationships between the sun and water lily flowers. While Schele and Miller (1986:182) have interpreted the relationship between ***k'in*** ('sun') signs and the forehead of the Quadripartite God (Figure 9b–e) as the sun making its way through the underworld after sunset, much as they interpret the close relationship between the interchangeable floral ***kimi*** sign and crossed bands (Figure 9b–d; Schele and Freidel 1990:415), the present analysis proposes an alternative explanation. Just as the water lily looks like a sun, the flower also exhibits the distinctive habit of opening to the sun at daybreak and closing before sunset for three consecutive days. After the third day of flowering, the floral image of the sun is pulled underwater by a recoiling peduncle, at which point the fertilized flower begins to mature into a fruit (McDonald 2002). Hence the water lily stalk, much as the WLM, WLS and Quadripartite God, shares the conventional physical and behavioral characteristics of a solar serpent that moves between an aquatic underworld and the sky, in perpetuity. This interpretation identifies the plumed serpent, therefore, as a zoomorphic symbol of a flourishing water lily stalk.

Vision Serpent as Portal and Conduit

The Quadripartite God and his close associates figure prominently in ritual scenes of the Maya, where dynastic personages interact with denizens of Xibalbá

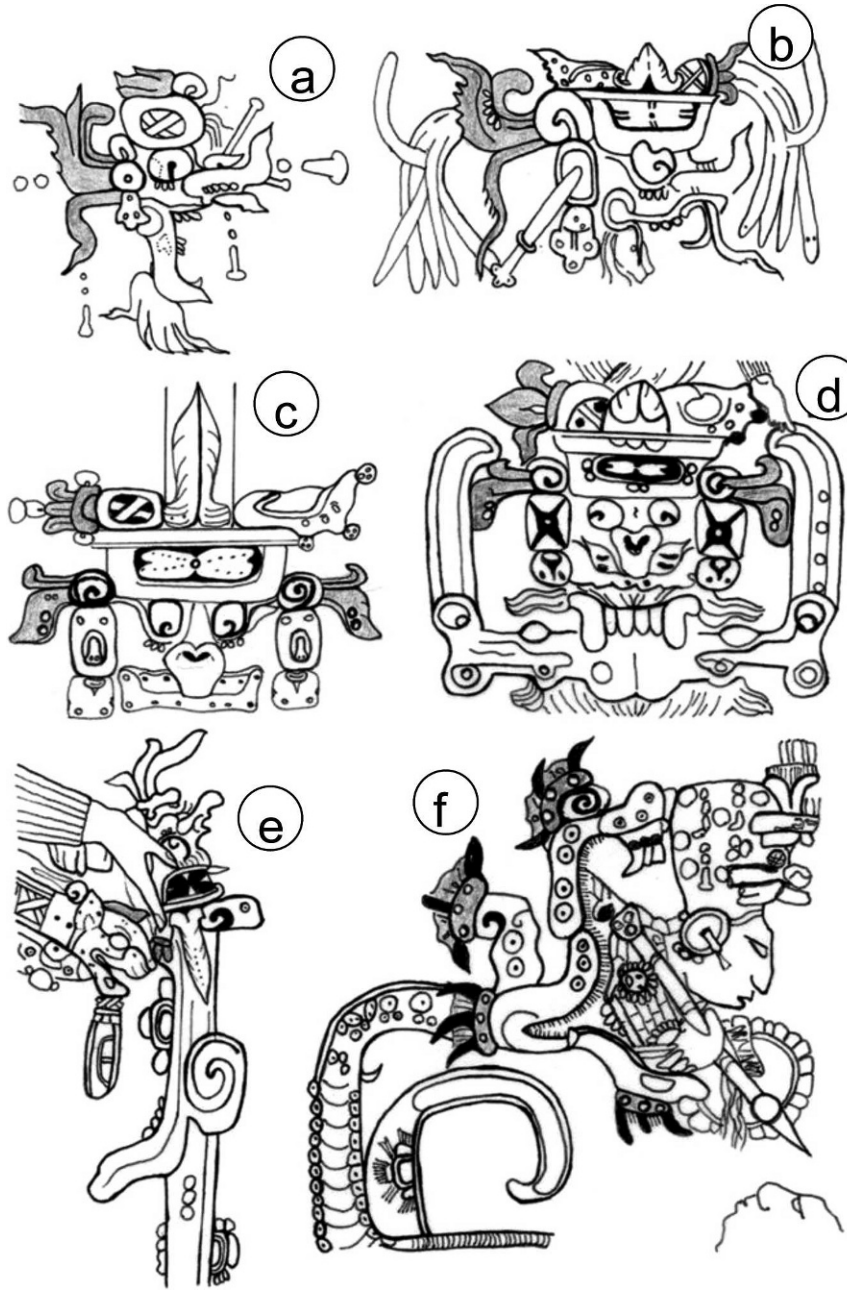

Figure 9. Visionary Gods: Quadripartite God and Water Lily Serpent (water lily flowers shaded). a) Although this WLM does not present the plate and basic attributes of the Quadripartite God in Figure 9b, the facial features of these two creatures are identical, as are the placements of the ***sak*** glyph ('white', and with the standard water lily symbolic elements –trefoil with horizontal bar) with infixed cross bands on the forehead, suggesting equivalency. After Kerr 3066. b) The Quadripartite God –a WLM bearing sacrificial plate, plumed 'white flower' motif, shell and 'stingray spine,'– seems to represent a ritualistic aspect of the WLM. After Kerr 496. c) A frontal view of Quadripartite God's face resembles that of the WLM and Chahk masks. Palenque, Chiapas, Mexico. d) Pakal falls into the

or eventually pass by means of a portal (***ol***) to the world of the gods at the end of their lives: i.e., their 'white flower' (***sak-nik*** as 'soul') having been lost to this world. Entry into an aquatic underworld apparently occurs at the site of a quatrefoil, here termed a solar flower sign (related in form to the ***k'an*** cross or ***k'in*** glyphs; Freidel et al. 1993:215–216, 352, Figures 4:27b–d, 8:8 a–c), and the process seems to involve paraphernalia contained within the solar ***k'in*** bowl (Figure 8b–e; Freidel et al. 1993:151) of the Quadripartite God. This process is exemplified by the famous Lintel 25 at Yaxchilan, on which Lady ***K'abal Kook*** receives a vision from a Tlaloc warrior (Shield Jaguar) through the gaping mouth of a cosmic serpent (Figure 9f). Mayanists have interpreted the meaning of the vision in a variety of ways, largely, if necessarily, on speculative grounds. Carrasco (1990:56) suggests the image signifies the returning of warrior power to the dynasty while Tate (1992:89) identifies the emergent warrior specifically as Shield Jaguar, his name appearing above the head, but noting that the image might portray the transformation of a royal individual into a divine personage. In a more general context, Hellmuth (1987 II: Figure 50) envisages the cosmic snake as a transporter of humans to aquatic abodes of the gods based on recurrent portrayals of human forms clinging to the bodies of the plumed serpent.

There is little doubt that Yaxchilan's famous lintel portrays the serpent as a tubular conduit through which mortals and immortals confer with each other, supporting the notion of Freidel et al. (1993:207) that gods and ancestors make contact with the living realm through the open jaws of a vision serpent. If so, it is notable that this particular vision serpent can also be interpreted as a flowering water lily stalk, given that this plumed serpent is actually a flowery serpent, as indicated by the water lily flowers adorning the creature above and below (the flowers often being mistaken for feathers). This perspective is based also on the fact that the conjuring serpent at Yaxchilan is identified specifically by glyphic inscriptions on Lintels 15 and 13 as both the ''water lily serpent'' and the ***nagual*** or co-essence (*way*) of the god K'awil (Graham and von Euw 1977), the latter being a serpent-legged god (aka GII of the Palenque triad of deities, or God K of the codices) whose animal co-essence (***nagual***) is the WLS (Alexander n.d.:7; Appendix 1.D7) and frequently associated with the WLM (Alexander n.d.:15; Appendix 1.D8). Moreover, the manifestation of the same ''water lily serpent'' before the visionary Lady ***Chak Chami*** at Yaxchilan (Lintels 13 and 14), and by iconographic association, before Lady ***K'abal Kook*** (Lintel 25; Figure 9f), produce the apparition of a divine human being from the Otherworld.

While Schele and Miller (1986:47) identify the serpent's plumed features on Lintel 25 as ''feather fans,'' we can be sure that these features are water lily flowers, as they bear all the signature features of this ubiquitous motif: trident

←

plate of quadripartite god, his feet and rump barely observed above the lip of the platter. The ***kan*** cross suggests a port of entry to the land of the water lilies (Xibalbá). Palenque, Chiapas, Mexico. e) Sacrificial fluids (***itz***) pour profusely from the head and quadripartite platter. Temple of the Foliated Cross, Palenque, Mexico. f) A queen confronts an ancestral warrior as he emerges from the maw of a vision/water lily serpent. Scholars have mistakenly identified the water lilies on the serpent's mandible, maxilla, and ear as ''feather fans.'' Yaxchilan, Chiapas, Mexico.

calyx, comb-like corolla, and basal bar with three circlets (Figure 9f). These floral features appear on both ends of the serpent's body, as though his body were a tubular conduit (i.e., *Nymphaea* stalk), as is also the case by fixing ***sak-nik*** signs on the nose and tail of the serpent. Indeed, Schele and Mathews (1998:47, Figure 1.22) note that the heads and tails of cosmic serpents were often attached to the glyph for 'white' or 'white flower' to indicate they served as conduits for human souls, but without identifying these white flowers specifically as white water lilies. We propose that both the glyphically identified ''white flowers'' and the features identified by Schele and Miller as ''feather fans'' should be identified specifically as white flowers of *Nymphaea ampla*.

Many students of Maya iconography assume that the visionary scenes at Yaxchilan involve some sort of ritually-induced hallucinatory vision, owing in part to the contents of the plate or bowl in the visionary's hand. The literature is replete with a shared belief that the plate or bowl contains blood-soaked paper, a stingray spine, and an obsidian lancet (Schele and Miller 1986:175, 187), and that the depiction of liquid drops in association with the platter represents sacrificial blood, which they identify as the ''mortar of ancient Maya ritual life.'' This perspective is based, of course, on the assumption that the implements of the platter were employed in blood-letting rituals, with much emphasis placed on the use of stingray spines as a blood-letting device, and, according to numerous commentators, the resulting induction of endorphins by participants followed by the experience of hallucinatory visions (Carrasco 1990:110, 112; Furst 1976; Miller and Taube 1993:181; Schele and Miller 1986:177–178).

This particular explanation of the ritual scene might be questioned, however, on the mere observation that self-inflicted pain and blood loss rarely (if ever) provoke visionary experiences. Furthermore, the supposed stingray spine in the platter might be considered too large, inflated, and blunt at the apex (Figure 9b–e) to represent the needle-like stinger of a skate or a sharp shark's tooth. On the other hand, Tate (1992:91) expresses a rare skepticism with regard to this explanation, just as Alexander (n.d.:4, citing Looper) questions whether or not bloodletting is involved in vision serpent scenes. Beyond these doubts, however, no alternative explanations for this ritual scene are provided.

There is no question that bloodletting played a central role in the religious practices of pre-Columbian priests and Mayan aristocracy (Demarest 2004:184–188; Stuart 1988), as such habits were witnessed personally by the Spanish Bishop Diego de Landa during the 16th century. The Bishop notes specifically that Yucatecs lacerated and punctured their ears, cheeks, tongues, and penises as an expression of devotion (Furst 1976; Garibay 1966, chpt. 28:49; Joralemon 1974), in direct relation to practices that can also be traced on the oldest known Maya mural paintings at San Bartolo (Saturno 2006). Nevertheless, the liquid drops that are closely associated with the conjuring serpent, or indeed, with *non*-conjuring serpents in narrative mythic scenes that do not involve human sacrifices, seem to suggest that the reptile, rather than the human conjurer, is the ultimate source of the sacrificial drops.

The prominent exudate in these rituals is justifiably identified as ***itz***: a flowing substance of the underworld and heavenly realms that the Maya

employ in their shamanistic practices. As noted by various authors (Freidel et al. 1993:51, 210–211; Thompson 1970:211), one word for shaman, ***itzam***, meaning 'one who has or uses ***itz***' (i.e., a shaman or *hechicero*, Barrera Vazquez 1980:272), identifies the sacred liquid as the sustenance of living creation and an ingredient by which spiritual linkage is made between the world of the gods and mortals. Whereas the word ***itz*** can refer in modern Mayan languages to milk, sweat, tears and other excrescences of living origin, more often than not the word refers to a plant exudate (Freidel et al. 1993:411), primarily sap or nectar (Barrera Vázquez 1980:271–272; Taube 1992). Moreover, the ***itz*** glyph (T152) is represented by a polypetalous corolla surrounding an ***ak'bal*** (darkness) sign, which Montgomery (2002:99) identifies as ''a flower with stamen (sic) drooping from its blossom.''

With respect to the Quadripartite God and serpent association, the ''scattering of ***itz***'' ritual was performed at Palenque by Chan Bahlum in the West Sanctuary Panel of the Temple of the Cross by upturning an overbrimming, quadripartite god-head (Figure 9e). The cup itself, exhibiting a solar (***k'in***) sign, releases a liquid medium that contains decorative scrolls and half-floral motifs (Stuart 1988, Figure 5.23:193), these signs perhaps representing the 'soul stuff' (***ch'ulel***) of the sacrificial cup (Freidel et al. 1993:142; Looper 1995:27; Schele and Mathews 1998:229; cf. Vogt 1965:33–35), the liquid presumably representing ***itz***. A similar motif was rendered in stucco on Stela 6 (House E) at Palenque, where the body of the bicephalic serpent forms a sky band (Stuart 1988, Figure 5.24:194–195) and disgorges ***itz*** from its opposing heads, in a manner that is reminiscent of WLS's ear-flowers (Figure 7d, e). On this stela, however, there is no human figure present to shed the sacrificial blood; rather, the bearded crocodilian head of the bicephalic serpent presents a water lily motif upon his head, a water lily leaf at his elbow, and a well-formed water lily flower decorated with quetzal feathers from the ***k'in***-sign plate on top of the inverted head of the Quadripartite god. Bearing in mind that the glyph for ***itz*** (T152) portrays the radial view of a polypetalous flower (sometimes described as an aquatic shield) with an ***ak'bal*** sign in its center and four streams of liquid falling downward (Montgomery 2002:99), it seems likely that the outpouring of ***itz*** relates to copious nectar production of water lily flowers during their first day of anthesis. There is simply no evidence that a sacrificial spilling of blood relates to this scene.

A very similar image is observed in the hands of Chan Bahlum on Pier C of House D at Palenque (Stuart 1988, Figure 5.27:197), where the king dances across a dense mat of water lily plants and cradles a quadripartite badge in his right arm, from which emerges a three-branched, vegetative/serpent motif. The apical branch of this vegetative motif bears the same half-flower motif that emerges from the ***itz*** on the western sanctuary panel and matches closely with eight-petalled floral motifs that alternate with water glyphs on the boundaries of the panel. These motifs presumably represent the unique tetramerous characteristic of water lilies. In a similar fashion, another bicephalic serpent that surrounds a king on Lintel 3 of Temple IV at Tikal exudes ***itz*** from the head of the WLM (Figure 6c; Appendix 1.D9). These liquid droplets compare closely to those pouring from God C's crown when he personifies the ''sacredness'' of the water

lily (Miller and Taube 1993:146) or the WLS's floral ear flares (Figure 7c, d; Appendix 1.D10). Stuart (1988, Figure 5.40:210–211) identifies these droplets as blood, but the liquid seems to flow directly from a water lily flower that erupts from the serpent's cranium. A human figure that stands beneath the coils of the serpent performs no apparent activity that relates to a blood-letting ritual; hence in this and many other instances the outpouring of ***itz*** seems to originate from an aquatic plant.

If a nectar interpretation of ***itz*** is correct, and the usage of floral exudates relates to the summoning of Vision Serpents as ***naguals*** (Mesoamerican kindred animal spirit-guides) and passages through portals (Freidel et al. 1993:224), then we are obliged to seek an explanation as to why and how the water lily may have played a role in the Maya vision quest. One perennial suggestion is, of course, that water lily extracts may have been employed as a psychotropic medium (Alexander n.d.:4; Demarest 2004:192; Dobkin de Rios1974; Emboden 1981, 1982, 1983; Robicsek 1981:149), much like mushrooms, alcohol (*pulque* or *balche*), tobacco, cacti, dermal excrescences of toads and morning glory seeds (Dobkin de Rios 1974; Furst and Coe 1977; Miller and Taube 1993:85). Emboden (1978, 1979, 1981, 1989) examined cross-cultural similarities between the usage of lotus imagery in shamanic scenes of Mesoamerica and Egypt, compelling him to hypothesize an entheogenic use of water lily extracts, citing the pharmacological investigations of Díaz (1975, 1977), whose reports identify a class of isoquinoline alkaloids in *Nymphaea ampla* that is related to opiates (aporphine and related compounds). He also notes various historical medical studies on water lilies (Delphaut and Balansard 1943; Descourtilz 1829:26; Pobequin 1912:49) that attest to the tranquilizing effects of water lily extracts, the latter of these recommending the use of water lily extracts in lieu of opiates in the Caribbean. Harer (1985) later examined ancient historical records pertaining to the Egyptian water lily, in which he discovered references to the Egyptian lotus, ***sheshen*** (*Nymphaea nouchali* DC.), in the 15th-century BCE *Ebers Papyrus*, as having toxic properties. While this record seems to contradict historical scenes throughout Egypt and the Middle East, where the plant is constantly associated with libation scenes and ritual food offerings to the gods (McDonald 2002), the record is consistent with the 11th-century medical work of Avicenna (*Tract on Cardiotherapy*; Hameed 1983), a Muslim physician and scholar who adopted Egyptian and Greek medical lore in his practices. He describes the medicinal use of the Nile's water lily as a producer of ''fatigue and disturbance'' in the ''psychic pneuma,'' suggesting psychoactive properties.

Two additional sources of evidence in pre-Columbian Maya imagery seem to suggest that water lilies were employed as ingredients in mind-altering concoctions. Round jars associated with libation and enema scenes among pre-Columbian Maya communities are thought to contain intoxicating substances (Stuart 1988:229) and these same accoutrements are often associated with the Quadripartite God. It is noteworthy that a prominent member of the Maya pantheon known as 'Water Lily Jaguar' is intimately associated with *Nymphaea* (Figure 4a) and frequently involved with drinking vessels and ritual libation scenes (Freidel et al. 1993: Figure 6:5; Appendix 1.D11; Robiscek 1981, Vessel 46), sometimes with intoxicating effects (i.e.,

provoking regurgitation; Appendix 1.D12; Kerr and Kerr 1997:823). Water Lily Jaguar is also adept in the use of enema pots and syringes (Alexander n.d.:5; Furst and Coe 1977; Robicsek 1981, Vessels 46, 147; Appendix 1.D13), and in these scenes he makes nuanced gestures that suggest an intoxicated state by falling into the Underworld with his legs oriented upward (Freidel et al. 1993: Figure 6:10; Appendix 1.D14). This same posture is adopted by God A, a god of intoxication, with water lilies in his hair as he employs the enema and drink (Appendix 1.D15).

Water Lily Jaguar is a well known denizen of Xibalbá and conventionally displays a signature water lily flower or blade upon his head and water lily leaf ears. On other occasions he is surrounded with or covered by water lily flowers (Figure 4a; Appendix 1.D16) and motifs identified as ''Venus'' signs, the latter of which bear the distinct aspect of a stylized water lily (Appendix 1.D17). Just as interestingly, elites that are shown participating in libation and enema rituals often wear jaguar spots and conventionally insert water lilies in their hair (Appendix 1.D18).

These mind-altering activities and devices of Maya priests and gods were apparently the means by which the mysterious conjuring serpent is beckoned for a visionary experience; for we observe the conventional ''enema bib'' –a beaded (?) cloth that hangs around the necks of possessors of enema syringes– is often worn by gods that confront visionaries on ceramics (Figure 7b; Appendix 1.D19). Furthermore, this same god often presents a libation cup before the visionary (Appendix 1.D20), ostensibly associating the libation and enema rituals with visions by means of WLS.

Summary and Conclusion

The foregoing examination of water lily and cosmic serpent imagery in the arts of the Classical and post-Classical Maya provides new and unexpected, interrelated insights into the symbolic significance of Mesoamerica's iconic feathered serpent. Our systematic examination of realistic and abstract floral imagery, in the context of the unique morphic and biological characteristics of *Nymphaea ampla,* sheds new light on the beliefs and ritualistic practices of pre-Columbian Maya communities. By recognizing the ubiquitous trident/trefoil floral motif in Maya arts as a water lily, and by highlighting various iconographic and symbolic conventions that are consistently associated with water lily motifs (the placement of streaming feathers within full-blown flowers, symbols for water and nectar on the plant's serpentoid peduncles and perianth segments, a horizontal bar that occasionally contains three circlets underneath the calyx, and 'white flower' glyphs on the ears and tails of the WLM and WLS), this study highlights previously unrecognized patterns of symbolic relationships from the distant past. As a standard feature of various aquatic gods of the Maya Netherworld, including the WLM, WLS, vision serpents, various aspects of the rain-god, Chahk, and the Quadripartite God, whose ears, craniums, eyes, mouths, tails and/or coiling bodies sprout forth water lily stalks and flowers, we identify *Nymphaea ampla* as a crucial, unifying symbolic element in Maya iconography and mythology. Recurrent associations of water lilies and cosmic serpents lead us to identify the

feathered serpent as a zoomorphic symbol of this sacred plant, the serpent's body representing the plant's peduncle in aspect and behavior, the serpent's feathers exemplifying the plant's plumose, large-petalled flowers. All of the aforementioned gods and their signature floral features relate to cosmogenesis and/or natural creation, as evidenced by their narrative roles in birth and death scenes of Maya mortals and immortals. Moreover, the water lily's glyphic role in connoting the beginning of time (***imix***) and annual time cycles (***tun***) underscores the plant's symbolic relationship with cosmic processes.

Water lily imagery in Maya iconography affords an historical perspective on the lost and forgotten practices of Classical and post-Classical lowland Maya communities. Aristocrats and priests often assumed the guise of water lily gods in coronation and celebratory events by wearing masks and headdresses that bore water lilies, water lily symbols, and images of various gods that personify *Nymphaea ampla*. On other occasions they were involved in libation and enema ceremonies, often in the company of the aforementioned gods and frequently bearing water lilies on their heads or in their hair. Ritual scenes portray the use of various implements and liquid extracts by dynasts in their preparation for transcendental and visionary experiences, which most modern Mayanists have interpreted as blood that has been extracted from the perforated body parts of dynastic participants. However, closer examination of these ritual scenes on the bas-reliefs of Palenque and Yaxchilan, as well as narrative/mythic scenes on ceramics, calls some of these interpretations into question. In many cases, the liquid medium involved with visionary experiences flows directly from water lily flowers, floral adornments on the heads of the WLS, or the Quadripartite God instead of sacrificial humans. Since the use of enema syringes and libations pots are often associated with the inducement of visions via the WLS, and often in association with water lilies and water lily gods, especially the well-known god of the Maya Netherworld, Water Lily Jaguar, we propose that the long-held hypothesis that water lilies possess entheogenic properties is supported by these recurrent associations. This proposition is consistent with preliminary pharmacological studies that have identified a class of opiate alkaloids in the Nymphaeaceae. These findings suggest the religious and mythic significance of *Nymphaea* have been underestimated in past studies and sets the stage for a new round of inquiry into past beliefs and habits of lowland Maya communities.

Note

[1] T numbers identify Maya glyphs according to a system devised by Eric Thompson in 1962. Lower case letters that follow the T-number denote an observable variation on a glyphic motif, *v* meaning 'variant.'

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Appendix 1. Sources of Corroborative Images

Numbered references beginning with the letter 'K' refer to archival records of rollout ceramic photographs by Justin Kerr, available at www.famsi.org/research/kerr/.

A. **Introduction and Glyphic Representations**
1. K5073, K5628, K7185
2. K1368
3. Coggins 1983 Figure 11; Maudslay 1889–1902 pl. 95a
4. K2208, K2272, K3201, K8608

B. **Water Lily Monster**
1. Maudslay 1898–1902 IV:93a, III:35a, 35b; Rands 1953:103
2. K623, K3151, K5541, K7980, K8278, K8928
3. K4562, K6395, K7287
4. K4562, K6394, K7287
5. K623, K3151, K5541, K7980, K8278, K8928
6. K623, K3366, K5007, K6619
7. K5073, K5961, K6620
8. K4478, K6620, K7185
9. K5073, K5452, K5628, K6426, K7146, K8278
10. Maudslay 1889–1902 IV: pl. 43
11. K623, K3034, K4958, K5628, K5961, K7980
12. K531, K4958, K6620, K8624, K7287; Maudslay 1889–1902 III: pl. 45, IV: pl. 35, 37
13. K3034, K5628, K 5961, K7148, K8278, K8624

C. **Water Lily Serpent**
1. K5452, K6394, K7287, K8928
2. Robicsek 1981: Vessels 97, 108, 159, 170, Figures 29, 31; K4957, K7226, K8485
3. K4957, K7226, K8485 and Maudslay 1889–1902 IV: pl. 43

4. K1006, K1184, K1523, K3066
5. Coggins 1983:64, Figure 2
6. K4958, K8624, K6620, K7287
7. Maudslay 1889–1902 I: pls. 59a, b, 85; III: pl. 51c; IV: pls. 18, 36; Looper 2003 Figures 3.6, 4.8, 5.17; compare also K2733, 7593
8. K1604, K2572, K7289, K7823
9. Maudslay 1889–1902 III: pl. 46; IV, pl. 93m; Schele and Mathews 1998: Figure 7.34a, b; Robicsek 1981 Figure 50; K2799

D. **Chahk and Quadripartite God**

1. K5436, K8252, K8653
2. K661, K4705, K5072, K5073, K5961, K6620, K7980
3. K1201; or note rods in K1230, K1250, K1815, K2213, K3431, K4056, K4486, K8498, K8608
4. K1368, K2208, K3619, K8498, K9134
5. K623, K3034, K5072, K6616, K6619
6. K7146, K8278, K8823
7. K2295, K2799, K3151, K4682, K5366, K7146
8. K2295, K5366
9. Stuart 1988 Figure 5.40, for full view of the serpent
10. K2067, K4485, K7523
11. K1374
12. K3312, K6020, 4605
13. K530, K774, K1558, K1973, 2669, K4922, K6659, K7525, K7604
14. K1439, K2942, K3395, K7220, K8936
15. K1381, K5538, K7152
16. K1381, K5538, K7152
17. K956, K1381, K1563
18. K671, K717, K956, K1381, 5125, K7898
19. K719, K1006, K1813, K3702, K3716, K5164, K5538
20. K1364, K2067