IMS Explorer

Institute of Maya Studies

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Inside this issue:

Confronting Maya Figurine Technology, by Mark Van Stone, *(cont. from pg. 1)* 2-7

IMS Live Streaming Event with Mark Van Stone, April 20 8

Unbundling the Maya Past for April, by Zach Lindsey; An Artistic Eye for the Maya, with Steve Radzi: Oxkintok 9

IMS Live Streaming Event with Keith Prufer, April 27 10

Communities, Caves, and Ritual Specialists: A Study of Sacred Space in the Maya Mountains of Southern Belize, by Keith Prufer 11-13

Becan During the Snake Dynasty/Tikal Conflics, by Joseph W. Ball and David Webster 14-18

Confronting Maya Figurine Technology

by Mark Van Stone, Ph.D., G.F.

I first visited the Ethnographic Museum in Dahlem, Berlin, just after the fall of the Berlin Wall. The curator, Maria Gaida, kindly showed me around their storage and study rooms, and there I saw two Dieseldorff Whistle-Thrones, side by side in a storage vitrine (***Figs. 1, 2, 3***).

This irrefutable evidence that ancient Maya manufactured some of their art using molds transformed my conception of their stone-age civilization. A k'atun later, in the bodega of Fundación La Ruta Maya (FRM), marveling at the molds that became the subject of his book, my mind wandered back to that first revelation. I little suspected that among that substantial collection on the shelves before me lay the very molds which printed those thrones I had seen in Berlin (see ***Figs. 4–8*** on the following two pages).

Fig 1: *Whistle-Throne in the Museum in Dahlem, Berlin, donated in 1895 by Dieseldorff.*

Fig 3: *Dieseldorff Whistle-Throne molded front panel and fragments in the Guatemala National Museum.*

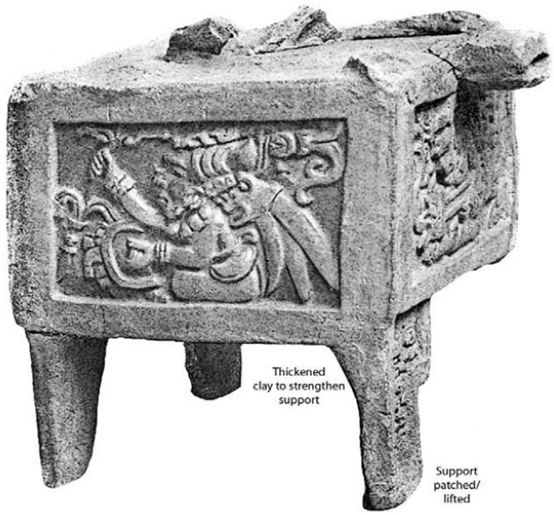

Fig 2: *Dieseldorff Whistle-Throne in the Museum in Dahlem, Berlin, donated by 1913, lost in WWII.*

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IMS Streaming:
April 20, 8 pm ET
The Second-Most Popular Maya Art in Ancient Times with Mark Van Stone, Ph.D., G.F.
April 27, 8 pm ET
Tracking Early and Middle Holocene Human Diet and Mobility in the Maya Lowlands with Keith Prufer, Ph.D.

Jim Reed, Editor

Confronting Maya Figurine Technology

by Mark Van Stone, Ph.D., G.F. *continued from page 1*

Fig 4: *Throne front panel mold (FRM).*

Fig 5: *Throne side panel mold (FRM).*

Fig 6: *Dieseldorff Throne mold at the Guatemala National Museum.* Photo by Mark Van Stone.

Erwin Dieseldorff (for portrait, see ***Fig. 9***, next page) started his coffee finca in 1888 in the Alta Verapáz region of Guatemala. That region was the first to receive sustained attention from Maya archaeologists and ethnographers; for example, it was the source of the famed Chamá painted vases (***Fig. 10***, see next page) His genteel home became a meeting place for archaeologists of the generation of Maler, Sapper, and Schellhas, and soon he was digging ruins on his own. (The field was substantially more relaxed in those days!) One of the ruined buildings he excavated contained, by his account, 12 "thrones" on which were seated lords (he identified them as the deity "Tzultacá"). Alas, the architecture of these buildings was of poorer quality than, say, Tikal; the roofs tended to collapse and smash the contents to bits. (Chamá vases usually were found in 100-200 pieces.)

continued on next page

Fig 7: *Molds and printed fragments of Dieseldorff White-Thrones.*

Fig 8: *Printed fragments of Dieseldorff Whistle-Thrones.*

Fig 9: *Erwin Paul Dieseldorff.*

Confronting Maya Figurine Technology

by Mark Van Stone, Ph.D., G.F.

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My co-author Paul Johnson researched Dieseldorff's publications, which included photographs of his reconstructions of one Throne and its Sitter. (***Fig. 12***, Throne A, and the "god" seated thereon, see next page.) What struck us initially was the disparity between the smallish throne and its huge occupant (with headdress, nearly thrice the height of the Throne itself). But, although he does not specify whether the dozen figurines and platforms were the same height or varied in size, we have to take Dieseldorff's word for it: among a dozen fragmentary seated rulers/gods, he says these two went together.

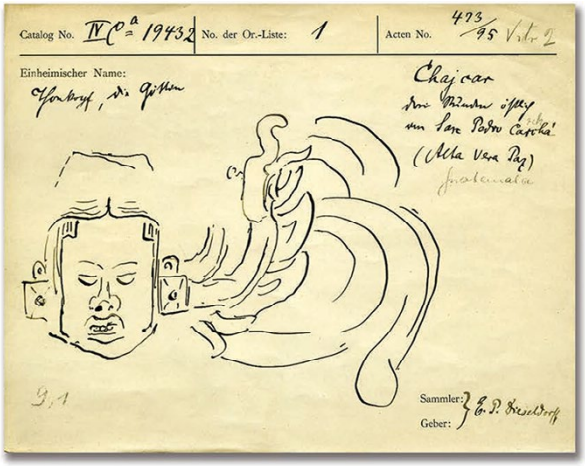

Fig 11: *Berlin Museum catalog card: Throne-Sitter's head (EMB).*

Fig 10: *Dieseldorff's photo of the Chamá vase.*

Like the stelae of Quirigua and the Incensario-stands of Palenque, the body and face of the Sitter is sculpted in the round, while the headdress is in bas-relief. Like a Las Vegas showgirl, the feathers look enormous, but are not so heavy. We looked into the Dieseldorff archive (about 1500 fragments) in the Ethnological Museum, Berlin (EMB), in Guatemala's Museo Nacionál de Antropología y Etnografía (MUNAE), and the FRM collection, and found a wealth of matching and near-matching items. (***Fig. 11***. Catalog-card of EMB Throne-Sitter's head; and ***Fig. 13***. Molds and similar faces from FRM and MUNAE.) We thought that ***Fig. 13*** portrayed the actual head of the figurine in ***Fig. 12***, but now we are not so sure. The cracks don't exactly match, and some pieces missing in the photograph, seem to have reappeared in the actual item. The rest of the figure was lost. The museum in Berlin suffered some damage at the end of WWII.

Note in ***Fig. 13***, features that identify the mold (our Mold F-9) with various cast manifestations of the same character (e.g., distinctive turban, side-locks).

continued on next page

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(a)
MUNAE has this partial duplicate of the serpent-wing headdress element above

Figurine size estimated from Dieseldorff photographs and surviving fragments in EMB collection (Fig. 80b)

5 cm

Photographs —
Figurine: photo courtesy of Latin American Library, Tulane University.
Throne: EMB

(b)
EMB has a duplicate crown fragment of this style headdress (adhered disc likely not part of it).

(c)
MUNAE has this right-side small serpent-head crown fragment, mirror-opposite of the left-side above.

Fig 12: *Throne Figurine from Chajcar, wearing an elaborate headdress in low-relief. Reconstructed by Dieseldorff from several fragments, most now lost. His photo published in "Kunst und Religion der Mayavölker," 1926, is illustrated here in scale to a photo of one of his Chajcar thrones, now lost since 1945. Height of figurine ca 38 cm; height of throne 13.5 cm.* *(continued on next page)*

Fig 13: *Molds and faces – and feather-panache mold – of Turbaned Throne-Sitter with side-locks of hair.*

91 – Seated Lady figurine in the Denver Art Museum. She is the right size, and shares features not only with the Dieseldorff enthroned figurines, but with many of FRM's molds. Fully nineteen of the F-molds (female figurine) made seated figures; about six of these have approximately the same size body as Fig. 78's. While first writing this catalog, we assumed that these figurines would stand alone (or rather, sit), but Dieseldorff's discovery of figurines and thrones together calls that assumption into question. The fragile feather-headdress on Fig. 89a, and the panaches on this figurine, would certainly have been made separately, from molds like FRM's I-1 and I-6, which allowed the artists to mix-and-match.

Upright tab for attaching upper headdress elements, as also seen on Dieseldorff's reconstructed figurine, Fig. 89.

On her left temple is a symbol of fertility, a Fish nibbling a waterlily flower. — Compare to Fig 92d, 92f, next page.

At her right temple she wears a feather-panache like Mold I-1 would make. (See Fig. 90e facing page.)

34 cm

28 cm

— Photo courtesy of Justin Kerr (K2819)

◀ 90 — (Facing page) Figurine fragments and molds from La Ruta Maya and MUNAE collections with similarities to Dieseldorff's throne-related figurines from Chajcar, and the complete Denver Art Museum figurine at right.

▶ At about 34 cm x 28 cm x 14 cm, this figurine is larger than our estimates of other Throne figurine candidates. She is maximum size to fit on Throne A but perhaps was made for an unknown larger-sized throne. — Shown here at smaller scale than objects on facing page.

— photographs: MUNAE / Pérez Galindo — (a), (l): Berlin; & (h): Paul Johnson

All objects approximately to scale

92 — Fragmentary examples of the Fish-and-Flower motif, from MUNAE and Berlin Dieseldorff fragment collections (discussed on pp. 94, 96). These flat-relief fishes likely broke off of headdress assemblages like the Denver Lady's on the previous page. We guess them to be part of a complex of interchangeable headdress parts for the Whistle-Throne-Sitters, which included the Tlaloc mask, Open Maw, Vertical tab, Chaak flanges, Serpent-wing flanges, feather panaches, arching skybands, and headbands with disks. — (a), (b), (c) and (e) are chimeras with fish fins and mammalian heads with pointed (bat?) ears — (a), (b), and (c) are duplicates from the same mold. — (g), (h), and (i) are likewise printed from the same mold, while (d), (e), and (f) each come from a distinct fish mold.— Fragment (k) appears identical to Maudslay's illustration (j). — (l) and (m) are mold duplicates.— Though (g), (h), and (i) are mold-mates, they were made from two different clays: (g) is buff-colored, (h) and (i) red.

A baker's dozen of "Fish-and-Flower" motifs cast from five or six molds.

Fig 14: *Molds and faces – and feather-panache mold – of Turbaned Throne-Sitter with side-locks of hair... now in the Denver Museum.*

Confronting Maya Figurine Technology

by Mark Van Stone, Ph.D., G.F.

continued from previous page

However, these examples originated from several different molds, of different sizes; she must have been popular. ***Fig. 13*** also features a mold for an arching panache of feathers, that appears in some versions of this individual (***Fig. 14*** above). The many molds which went into the production of these Sitters allowed a lot of variation from mix-and-match.

Justin Kerr, who photographed the seated lady figurine in Fig.14, said he believes this Lady was put together out of several pieces, which may not have been together originally. (This pastiche is common for large K'iche' burial urns. FRM has one donated by Francis Robicsek, which he told them had been so assembled.) In any case, she wears a feather-panache very similar to the FRM mold, as well as a Fish-and-Flower on the other side of her head. This popular Maya aquatic motif was also popular (and its avian reflection, the Hummingbird-and-Flower). Perhaps it symbolizes fertility and sustenance, and as we see on the right side of Fig. 14.

Until our investigation, no-one suspected that the "Denver Lady" was ever attached to a seat. (According to Kerr, the bottom of the figure was much-restored.) Of course, she could easily have been cast as a separate item, just as headdresses were assembled mix-and-match. So many extant figurines were separated from each other after unscientific excavation, that we forget that (as in Michelle Rich's El Perú-Waka' Tomb 6 assemblage) these characters often were meant to be part of a group, interacting with other characters and items. (By the way, of the 15 large figurines in the El Perú assemblage, nearly every face had a mold-mate.)

Given the rich trove of items made from the above molds, one might expect to find multiple copies pressed from our molds, but the reverse was true. Of 208 molds in the FRM collection, we were able to find only a handful of matching examples. The Dieseldorff Thrones were a striking exception. ***Fig. 15*** (above) and ***Fig. 16*** (see next page) provide an idea of the range and variety of molds in the FRM collection. Luckily, most of them are strikingly well-preserved (the Throne-molds are an exception), and they provide rich additions to the corpus of Maya figurines. (By contrast, Dieseldorff's hoard of artifacts, like most from Alta Verapáz, are in pretty bad shape.)

Fig 15: *Birds and faces of molds (FRM) to scale.*

(continued on next page)

Confronting Maya Figurine Technology

by Mark Van Stone, Ph.D., G.F.

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Fig. 17, another Throne from Berlin, reveals a feature of Maya figurines which sets them apart from other figurine traditions in the world. For example, Egyptian, Etruscan, and Chinese tombs are full of figurines, from tiny to life-size. We usually interpret that they served to feed and protect the dead forever, as seen in Egyptian tombs full of images of bakers, hunters, soldiers, and farmers, working hard to assure the comfort of the decedent through all eternity. (The mummies would be horrified that we – even archaeologists – plunder their tombs to adorn our museums… Deprived of their armies of servants, are they starving and miserable in their Afterlife?)

There were other uses for figurines: In Etruscan and Cycladic tombs they invoke gods to protect and accompany the Dead. In homes, Roman *lares* occupied family altars, and Snake-Priestesses protected Cretan families. Every culture also makes dolls for various reasons, particularly for kids to play with and practice their roles as adults (*viz*, Barbie and GI Joe). Like Egyptian tomb-figure-workers, nearly all figurines portray human beings, NOT gods. Herein lies much of their appeal.

But Maya figurines are, with few exceptions, musical instruments. Most have a whistle-mouthpiece, or they rattle. (Maya footed plates also rattle.) Even the Dieseldorff Thrones had a whistle-mouthpiece attached so the hollow body of the Sitter would act as sounding chamber. See ***Fig. 17***, Berlin Whistle-Throne. Many of the finest "Jaina"-type figurines were not whistles, for some reason. This is true of the 15 major figurines from El Perú-Waka', but three of them (otherwise indistinguishable in function) *do* have whistle-mouthpieces on their shoulders.

And, surprisingly, very, very few figurines are found in tombs. Archaeologists almost always find figurines in middens and household trash, broken. (The tombs at Jaina are outliers, an exception; there nearly every grave contained a figurine or two.) Temple B, the largest pyramid at Calakmul, was abandoned immediately after a ceremony which involved the breaking some 500 figurines on its steps.

I postulate that figurines were (apparently ensouled) noisemakers; perhaps paraded and then ritually broken. Sahagún records echoes of this. He lists the animals and items sacrificed in various Aztec ceremonies throughout the year; two involve the sacrifice of figurines. And particularly, he describes the Toxcatl ceremony, wherein a young man impersonated the god Tezcatlipoca for a year. He would enjoy sensual and intellectual pleasures: studying religion, wearing fine clothes, wandering the streets dancing, playing music, dining on delicious foods, and married to four beautiful wives. At the conclusion of the year, he would ascend the steps of a temple, playing and dancing, and then lie on an altar and be killed. Making his final ascent, he broke four flutes, representing the four cardinal directions. Broken flutes represent the cessation of breath.

I interpret these Aztec ceremonies as maintaining persistent traditions dating back to the ancient Maya and before.

My Maya molds project began as a simple descriptive catalog, but expanded into a 440-page investigation into the surprising role figurines played in their society. From the beginning, I have been charmed by their deeply democratic aspect: The vast majority of Maya art we admire – jade, stelae, inscriptions, painted vases, books, mantles, palaces – was exclusively the province of elites. But mass-produced figurines were enjoyed by the *hoi polloi,* the proletariat. Their humanity touches us, connects more directly than most of other Mesoamerican artforms (which often are an acquired taste!)

Composite image from photos of two surviving fragments, IV Ca 1943-a and -b, scaled to the 1985 photo published in "Alterthümer aus Guatemala".

Fig 16: *The fragments today that go with Fig. 11, Dieseldorff's catalog card of the Throne-Sitter's head. If they did not clearly fit together, one might be forgiven for doubting that such a large feather flange would ever have been attached to such a small head. Likewise, had not Dieseldorff found them together, and insisted that these large figurines actually once sat upon such small thrones, we would not have believed that they ever did.*

Fig 17: *Dieseldorff's Berlin Whistle-Throne with whistle mouthpiece.*

Note: IMSers, look forward to the imminent publication (by Tlacaélel Press) of ***Maya Mold Made*** by Mark Van Stone and Paul Johnson. The richly-illustrated full-color book will be available on Amazon, and other outlets by summer. Inquiries: *mvanstone@swccd.edu* or 619-813-7939).

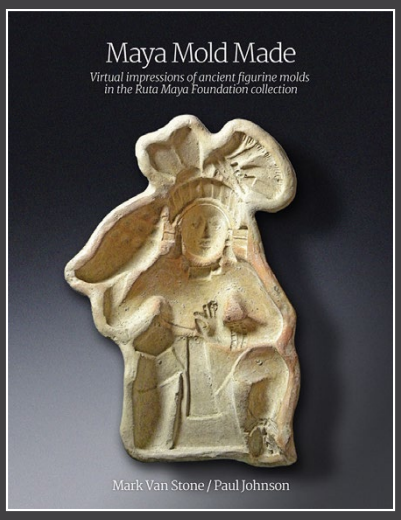
IMS Live Streaming 4.20.2022

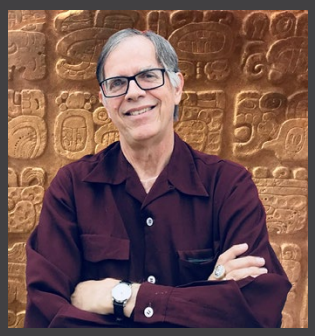
The Second-Most Popular Maya Art in Ancient Times (Right after Cooking!)

with Mark Van Stone, Ph.D., G.F.

Access and bookmark this active hyperlink to join the event:
https://us02web.zoom.us/j/82727935395

In 2014, Mark Van Stone discovered a rich collection of 208 ancient Maya Molds in the Ruta Maya Foundation collection. Along the way, he has learned a great deal about the role played in Maya society by Maya figurines. You'll never guess! As he puts it, "Unlike all other Maya artworks, figurines were not just for the elites – They were accessible to everyone. This compelling feature kept us going for all this time!" Since then, he has worked – with co-author Paul Johnson – on a catalog of the molds, (at right) and it will be published in April by Tlacaélel Press.



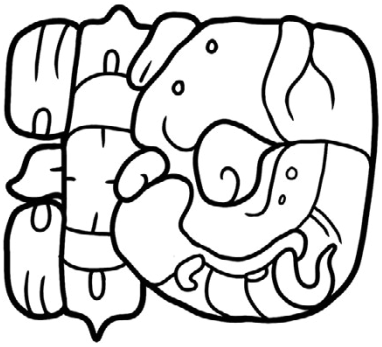


Mark Van Stone is a lifelong autodidact, *netsuke* carver in Japan, clay-animator, Guggenheim Fellow, with a Ph.D. in Maya Hieroglyphs (UT-Austin). A gamma-ray astronomy tech with a BA in Physics, then a calligrapher, carver, and paleographer, Mark is now professor of Art History. Mark's approach to understanding the craft and practicing it: "Picking up a pen or a chisel will teach you something about paleography or sculpture that you can learn in no other way." In 1997, Michael Coe invited him to be co-author for *Reading the Maya Glyphs* – because, Coe said, "You're a calligrapher. Your glyph drawings are the best." Mark's most recent book, *Maya Mold Made* (with co-author Paul Johnson), is a catalog of Ancient Maya ceramic molds and an investigation into the function of Maya figurines.

Plan to be with us for this momentous IMS zoom event!

Unbundling the Past: Events in Ancient and Contemporary Maya History for April

by Zach Lindsey



K'inich Kan Bahlam's name glyph. Original illustration by Zach Lindsey.

6 April 648 CE: On 9.10.15.7.10 13 Ok 18 Wo G6, K'inich Kan Bahlam of Palenque first grasped the K'awiil, a reference to a seemingly-public display when a king held a specific wooden scepter in the shape of the god K'awiil, a lightning deity associated with leadership.

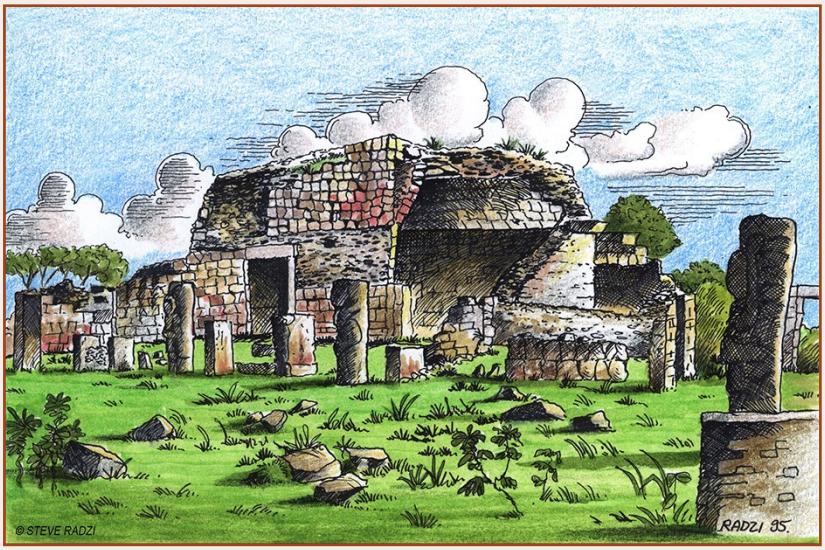
One daykeeper I spoke to about this act said that it may have been related to the contemporary practice of feeling lightning in the blood – jolts or spasms in different parts of the body that daykeepers use in divination. Today, the first time a daykeeper receives this feeling is an important milestone. In that case, this may have been the first time Kan Bahlam received a divinatory message in his role as spiritual leader of the city.

Iglesia de San Francisco Javier en Tzucacab Yucatan. This photo was published in 1943 by the Smithsonian Institution Bureau of American Ethnology.

19 April 1848 CE: On 12.11.12.16.14 9 Ix 2 K'umk'u G1, Jacinto Pat and the government of Yucatan signed the Tzucacab Accords, an agreement that could have brought about the end of the Maya Social War (*aka* the Caste War; see the March 2022 *IMS Explorer* for more on that). Besides forcing the Yucatecan government to cancel outstanding debts and reduce taxes on Maya people, the accords would have split the Yucatan Peninsula into two, one side ruled by a Mexican Federalist governor and the other side by a Maya governor – in this case Pat himself. Pat is remembered as a great and honest man, and he may well have been. He was certainly an interesting person: He liked to quote Cogolludo, and despite being a *cacique* in his own right, he was known to have a distaste for material things. But some of the other leading figures in the war, such as Cecilio Chi, apparently did not have faith in Pat's honesty, and the accords never came to be. Whether Chi was right to be distrustful of Pat is impossible to know, but his refusal led to disastrous consequences: The war could have ended a year after it started; instead it raged for more than fifty.

An Artistic Eye for the Maya

OXKINTOK (Three Sun Stone) – "The Palace" (200-900 CE)



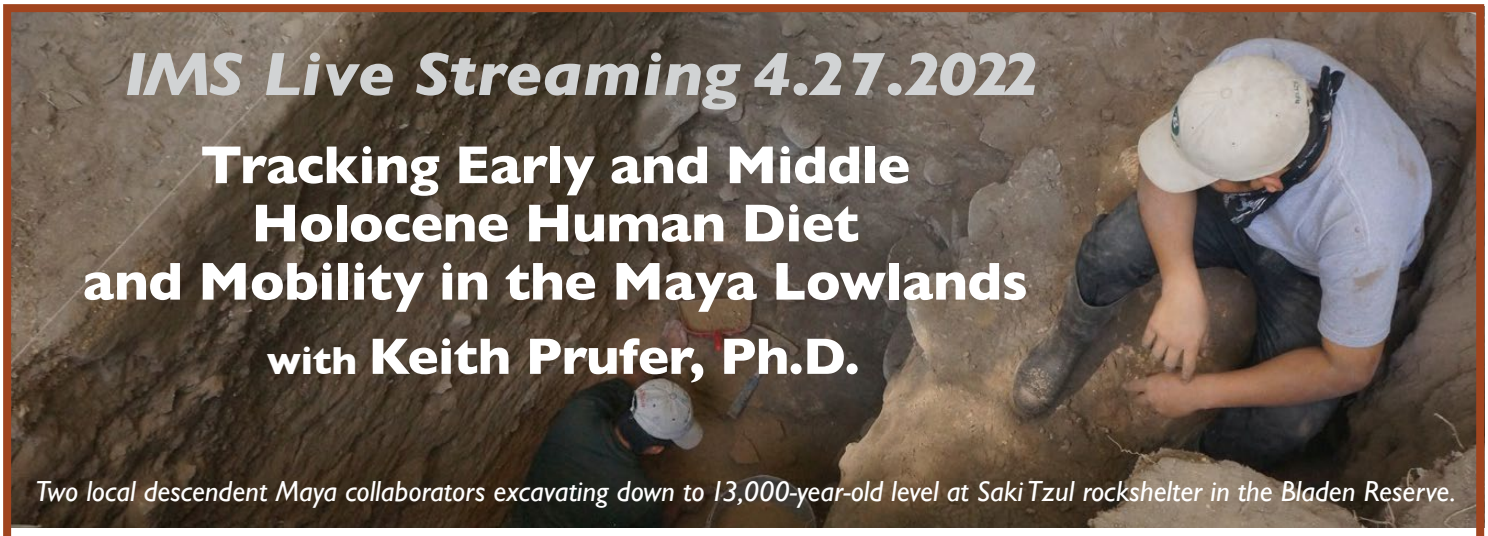
Although the site of Oxkintok is seldom visited along the Puuc route south of Merida in the Yucatan, it is definitely a worthwhile site to explore. It is divided into several complexes, including this illustration of "The Palace" or "Palace of the Devil," which features the remains of several anthropomorphic figures standing in front. Most of the standing structures at Oxkintok date from the Classic Period; however, the site features an array of Early, Late and Terminal Classic styles of architecture. In addition, numerous tombs have been discovered here, though sadly many have been looted through time.

Steve Radzi has been illustrating Maya sites for many years. In 1995, his original black & white illustrations were exhibited at the IMS Conference at the Miami Museum of Science. In recent times, Steve has colored them, bringing them to life. These illustrations have not been published before. We shall feature his work in this and upcoming issues. Enjoy. You may visit Steve's site for more of his work. www.mayavision.com

IMS Live Streaming 4.27.2022

Tracking Early and Middle Holocene Human Diet and Mobility in the Maya Lowlands

with Keith Prufer, Ph.D.



Two local descendent Maya collaborators excavating down to 13,000-year-old level at Saki Tzul rockshelter in the Bladen Reserve.

Access and bookmark this active hyperlink to join the event:
https://us02web.zoom.us/j/89434310370

Ongoing research at rockshelter sites in the Maya Mountains of Belize is changing how we view the early foragers and farmers in the neotropics. Humans utilized these sites before 12,500 Cal. BP subsisting on hunting, freshwater resources, and C3 plants. The earliest burials descended from Native Americans who migrated southward from the Western U.S. into Central and South America before 10,000 Cal. BP. These founding lineages formed distinctive communities across the neotropics by 7,000 Cal. BP as they began intensifying food production. Our study indicates maize was a minor, but notable, part of the diet prior to 4,700 Cal. BP, but rapidly became a staple in less than 700 years. We hypothesize that productive varieties of maize were introduced into the Maya Lowlands in concert with a previously unknown migration from the Isthmo-Colombian region between 6,000-5,000 Cal BP. In addition, this project has developed strong collaborative ties with local descendant communities in Belize though collaborations with a conservation NGO and regular open consultations.

The giant cliff face that shelters Saki Tzul rockshelter overshadows the 1x2m excavation unit. Photo by Keith Prufer.

Keith Prufer (Professor of Anthropology) is an archaeologist, isotope ecologist, and core faculty member in the Center for Stable Isotopes (CSI) at University of New Mexico. He has directed long-term interdisciplinary field and laboratory studies for the past two decades focused on human adaptation in the neotropics throughout the Holocene. Since 2015, he has worked collaboratively combining archaeometric and genomic data on tropical foragers and farmers in Central America. He has also worked extensively on public archaeology outreach and consultations with Indigenous Maya communities and other stakeholders. His current research addresses issues of mobility, migration, diet, and social organization.

Communities, Caves, and Ritual Specialists: A Study of Sacred Space in the Maya Mountains of Southern Belize

by Keith Prufer

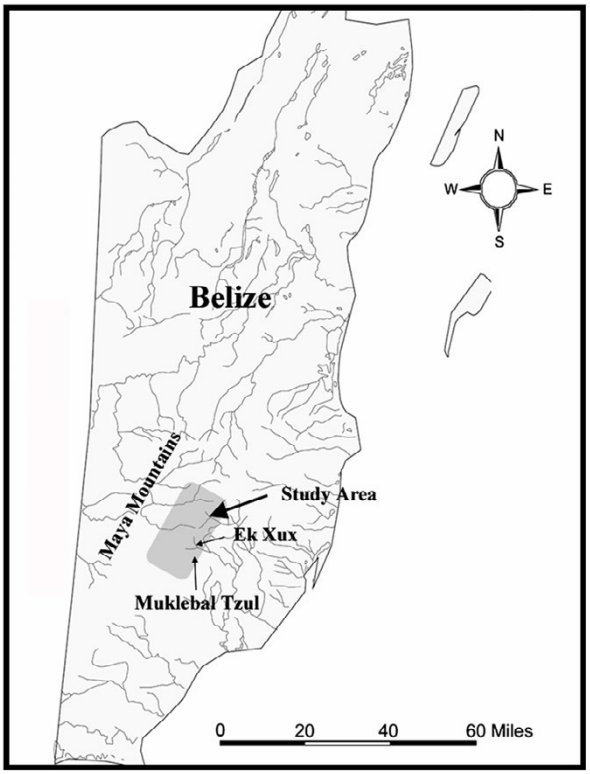
Editor's note: *This article is drastically condensed from Dr. Prufer's dissertation submitted for his Ph.D. in Anthropology to Southern Illinois University at Carbondale. The full 777-pg. document is available upon request.*

This project investigates the use of the sacred landscape at two Classic Period (250-900 CE) Maya sites in the Maya Mountains of Southern Belize, Ek Xux and Mukleal Tzul. It is a study of how ritual was exercised in both public and private spaces in caves and communities. In the Maya area, caves sites have some of the best-preserved and least disturbed ceremonial deposits. In addition, activities conducted in caves are, for the most part, unambiguously related to religious rituals, both political and non-political.

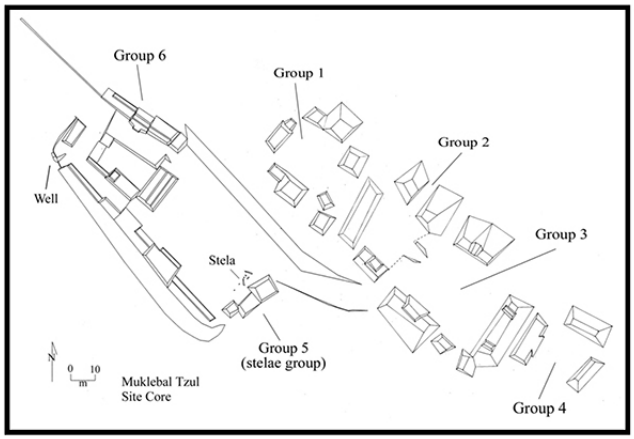
Many Maya rituals are conducted or performed by ritual specialists who operate as parts of hierarchical groups. Religious specialists can be attached to political institutions, or they can operate on the margins of those institutions as shamanic healers or sorcerers. All of these actors participate in ritual activities that create and maintain sacrality in places in their landscape, frequently caves. This study sought to identify the material remains of the activities of ritual specialists through analysis of variability in spatial arrangements and artifact assemblages that reflected differential use of ceremonial spaces for different classes of ritual.

The Maya Mountains are a remote range in southern Belize that has received little attention from archaeologists. Investigations were conducted in two of the more secluded drainages in the Mountains at two surface sites and 53 cave sites. Cave locations, spatial modifications, and distributions of in-situ artifacts allowed for partial reconstruction of rituals conducted at the cave sites. Investigations indicated that ceremonial spaces at the two surface sites were fundamentally tied to the sacred landscape, though the communities expressed this in different ways. Data collected indicate that variability in ritual between the two sites is most pronounced when it was public and served the collective aspirations of the community, and less variable when it was private, and conducted in restricted caves, likely by shamanic individuals. This indicates that the use of caves was part of larger shared Mesoamerican traditions and beliefs related to the sacred landscape.

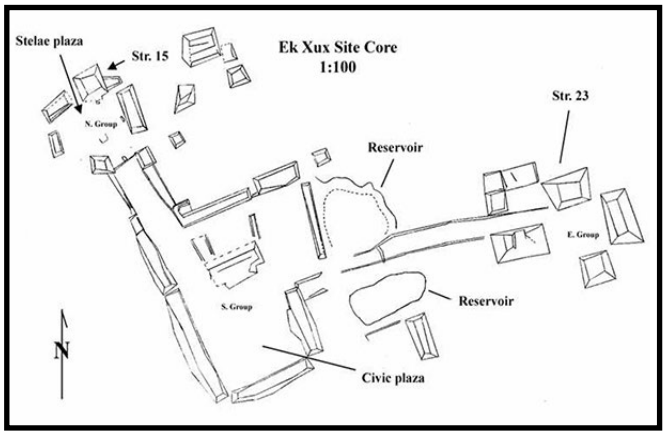
Landscapes are made sacred by the actions of people who mythologize, mark, and map places in the wilderness and then integrate them into their cultural geography. Features in a landscape that are perceived as sacred by individuals or groups are "contingent on the specific experience" of those people. Once a site is made sacred, it carries with it a new range of rules for behavior in relation to the site, rules that often imply relationships with a "non-empirical" world. Not all landscapes are sacred, and sacred sites are often more than just holy places; they are parts of wider political and social contexts.



Map of the study area.



The site core at Muklebal Tzul. Map courtesy of Andrew Kindon.



The Ek Xux site core. Map courtesy of Andrew Kindon.

For the Maya, religious symbolism has an important terrestrial component, with mountains and caves being the natural features they consider the most sacred. Archaeological and historical data indicate that caves in the Maya area were places where ritual activities were conducted, and that there were few activities conducted in caves that were not related to religious beliefs (mostly the collection of water from caves in the arid Northern Lowlands). Recent archaeological studies have suggested that certain artifact types and distributions as well as the presence of architectural features within caves are indicators of the activities of religious specialists and that these indicators can be used to identify the activities of specialists at both surface sites and caves in the Maya area. My dissertation investigates how

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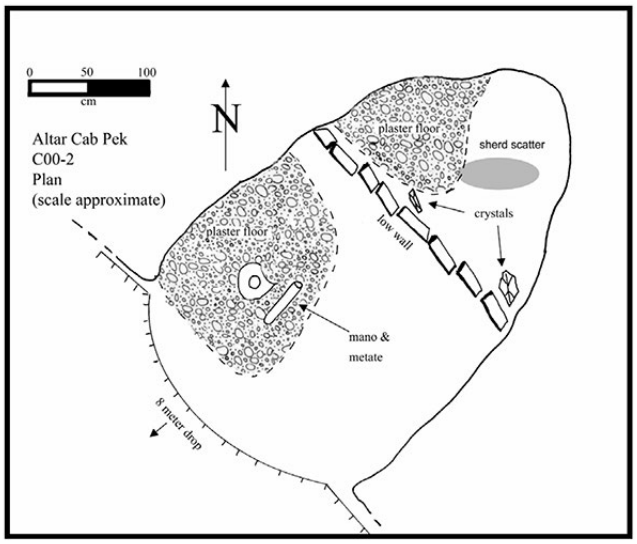
Communities, Caves, and Ritual Specialists: A Study of Sacred Space in the Maya Mountains of Southern Belize

by Keith Prufer *continued from previous page*

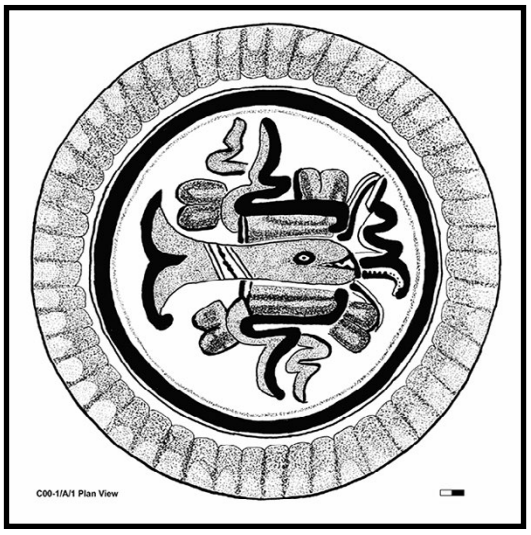
the residents of two Late Classic period communities in the Maya Mountains of southern Belize used caves and rockshelters near their communities for religious purposes.



Plan map of Altar Cab Pek in the Ek Xux Valley; note two crystals.

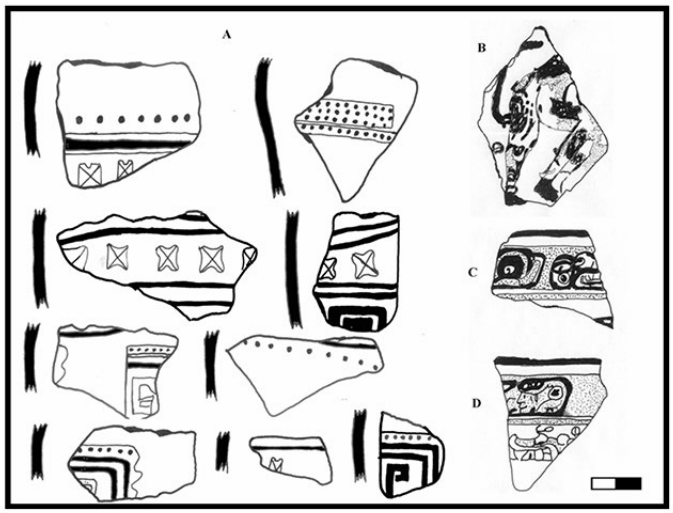
This research was intended to accomplish three specific and interrelated goals: First, to examine and compare the archaeological deposits from caves surrounding two Classic Period communities in order to illuminate how the Maya interacted with the sacred landscape; second, to determine if assemblages reflect the activities of ritual specialists in Mesoamerican society; and, third to compare sacred spaces among and between caves and communities to ascertain if ritual activities between them differed. Describing artifacts used in ceremonial and sacrificial activities, combined with analyses of the spatial contexts where they were deposited, allows for limited reconstruction of the activities conducted. These analyses draw on ethnographic and archival data as analogues to the ceremonial activities conducted by the Precolumbian Maya.

The author collected archaeological data during investigations at 53 cave and rockshelter sites surrounding pre-Hispanic sites Ek Xux and Muklebal Tzul between 1997 and 2000. These data were collected under the aegis of the Maya Mountains Archaeological Project (MMAP), a multi-year program documenting Classic Period settlement in the Maya Mountains. Ek Xux and Muklebal Tzul are communities located in adjacent though highly circumscribed valleys near the Bladen Branch of the Monkey River, one of the more remote drainages in the Maya Lowlands. Ek Xux was settled during the Early Classic Period (250-500 CE) and was occupied through at least the first half of the Late Classic (500-900 CE). Muklebal Tzul was settled during the middle of the Late Classic and may have remained heavily occupied until the beginning of the Terminal Classic (900-1000 CE). The two sites were occupied simultaneously for at least part of the Late Classic Period.



Dish from Utuch Qui, in the Ek Xux Valley.

The communities are remarkably different in terms of architectural layout, organization of ceremonial spaces, and mortuary practices. It is not known if the settlement of Muklebal Tzul represents the movement of a new population into the Maya Mountains, or if it was settled by a group from Ek Xux. Dramatic differences between the two sites combined with documented shifts in settlement patterns elsewhere in southern Belize during the Late Classic favor the former possibility, though it has not yet been tested archaeologically. If the later population at Muklebal Tzul represents a new group moving into the Maya Mountains region, then the ways that they identified and interacted with the landscape may differ from the earlier population at Ek Xux.



Non-local ceramics from Chab'il Uk'al, in the Ek Xux Valley. It would appear that activities performed at Chab'il Uk'al were somehow linked to ceremonial activities at the site core involving the political and/or ceremonial leaders of the community.

Forty-nine cave sites and four rockshelters were investigated in the two valleys where Ek Xux and Muklebal Tzul are located. It was hypothesized (H_1) that differences between the two communities would be reflected in their use of sacred space both at the surface sites and in caves, and that these differences could be detected archaeologically. It was also hypothesized (H_2) that cave contexts would reflect the activities of ritual specialists for both public and private types of rituals. Archival and ethnographic sources indicate that ritual specialists are protagonists in both public and restricted rituals in caves and communities. It was expected that variations in the use of sacred space would be most apparent in public ceremonial spaces where community-wide ritual activity would have addressed the aspirations of political rulers, and that there would be less variation in locations where ritual was more secluded or restricted, and had analogues in

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Communities, Caves, and Ritual Specialists: A Study of Sacred Space in the Maya Mountains of Southern Belize

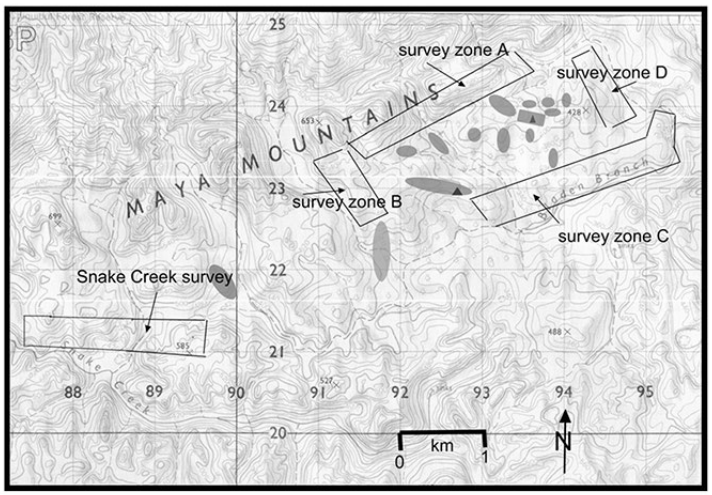
by Keith Prufer *continued from previous page*

the activities of ritual specialists involved in the healing and illness complex. Further, despite the differences in the use of sacred space there should be numerous similarities reflecting both communities' participation in the larger sphere of Maya and Mesoamerican belief systems and practices. The null hypothesis (H_0) was that there would be no archaeologically detectable variation in the use of sacred spaces.

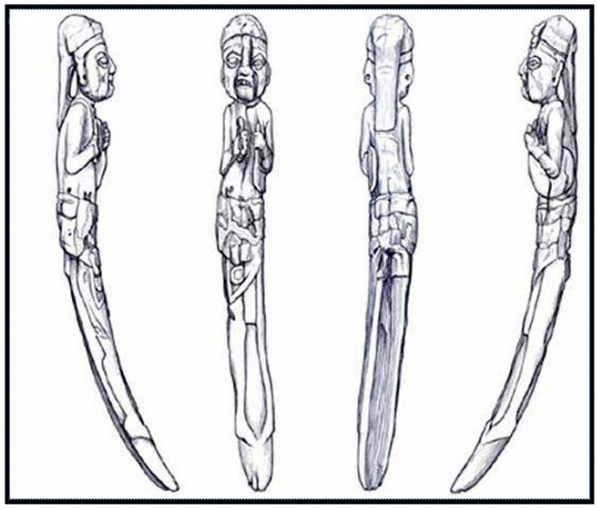
Archaeological data collected from caves near Ek Xux and Muklebal Tzul indicate that these were the loci of ritual activities conducted by members of the communities during the occupation of the site, and that there are differences in the way sacred spaces were used between the two sites. It was further hypothesized that cave contexts would reflect the activities of ritual specialists for both public and private types of rituals. The data presented indicate that public spaces were used for performance type rituals or pilgrimage activities, and that dark zone caves were the loci of more restricted types of rituals.

Archival and ethnographic sources indicate that ritual specialists are protagonists in both public and restricted rituals in caves and communities. In the study area variations in the use of sacred space were most apparent in public ceremonial spaces where community-wide ritual activity would have addressed the aspirations of political rulers. There was less variation in locations where ritual was more secluded or restricted, and had analogues in the activities of ritual specialists involved in the healing and illness complex.

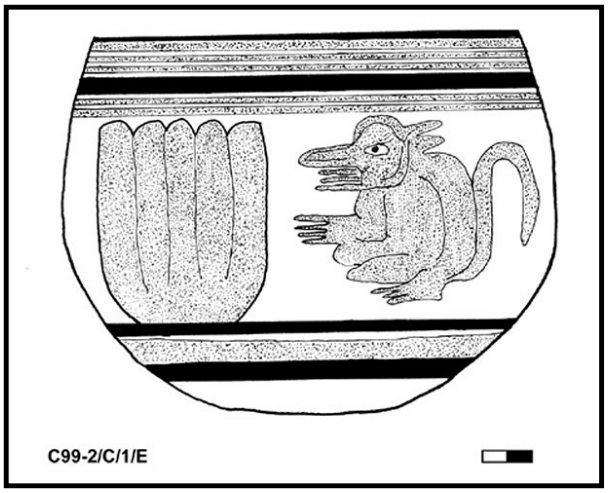
Ceramic and radiocarbon data indicate that some cave sites were visited prior to the occupation of the region. This earlier visiting of caves for ritual purposes indicates that the region contained features of the landscape that had sacralized prior to its settlement. This should not be surprising given that mountains and caves across Mesoamerica were and are considered to have symbolic qualities related to a living earth in need of constant nurturing. Certainly, the largest mountain range in the southern lowlands would have been considered a special place.



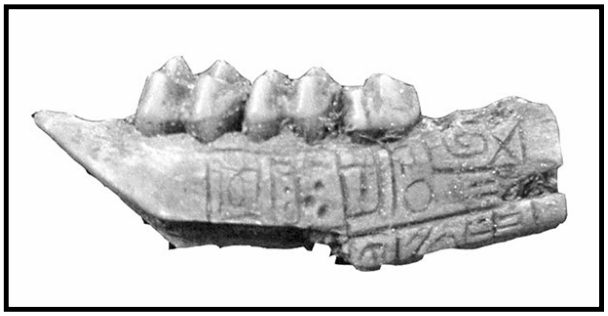
Muklebal Tzul valley cave survey zones.



A figurine from Xmuqlebal Xheton Subop A, Lot 2, in Muklebal Tzul valley. Drawing by Thomas Gatlin.



Ceramic artifact from Xmuqlebal Xheton Subop C.



Etched mandible artifact from Xba'qel Cho'qow cave.

The data collected for this study indicates that caves in the study area have functioned as pilgrimage centers, and locations where both private and public rituals were performed. Human modifications to caves as well as artifact types and distributions may also indicate the activities of ritual specialists. The constructions of boundaries, sweeping of spaces, and traveling of circuits are fundamental to practices of modern lowland Maya shamans, and all have potential correlates in caves discussed in this study.

The activities of Maya shamanic individuals are notoriously ambiguous, especially those who deal with caves in the sacred landscape. Modern ethnographers have found their activities remarkably elusive and difficult to document, due in part to their often-reprobate status in communities. However, they are and have been fundamental features of Maya society as documented by archival and ethnographic accounts. These studies, as well as cross-cultural accounts of religion in non-industrial North and South American societies, indicate that earth-focused ritual specialists often operate outside of larger political institutions, and often see themselves as protectors of people and traditions that transcend ruling elites and institutions.

Becan During the Snake Dynasty/Tikal Conflicts

by Joseph W. Ball of San Diego State University
and David Webster of The Pennsylvania State University

Research in 1970 vaulted Becan to prominence on the landscape of great Maya centers. Mapping, excavation, and ceramic stratigraphy revealed that its enigmatic earthwork, first recorded archaeologically in 1934, was a fortification built at the end of the Preclassic period. Large-scale warfare thus unexpectedly turned out to have very deep roots in the Maya lowlands. We identify intervals of crisis when the earthwork remained useful long after it was originally built, especially during the great hegemonic struggles of the Snake and Tikal dynasties, and introduce new ceramic and lithic data about Becan's settlement history and political entanglements.

Our 1970 season provided many insights about Becan's earthwork and its wider implications, and in our dissertations and subsequent publications we made four main claims: (1) the earthwork was a dry ditch and embankment fortification, (2) it was built at the end of the Late Preclassic period, (3) it signaled the presence of largescale warfare at least by that time, and (4) there was evidence that Becan was attacked about 440–460 CE, probably by Teotihuacan-associated enemies from the Peten.[1]

Information has emerged since 1970 to place Becan's earthwork and other features within the larger context of the local culture and political history of southern Campeche, and more specifically of the Tikal/Kaanu'l conflicts.

Ball's (2014) reevaluation of his ceramic sequence identified a major break in continuity in the middle eighth through the early ninth century. This break, coupled with his recent analysis of ceramics recovered by the Slovenian projects in the region, provides a contextually more expansive perspective on the deep occupational history of the earthwork-encircled center and its surroundings, and the political dynamics of the hegemonic conflict between the Tikal/Kaanu'l confederations.[2]

Structure XXV. Most of the embankment fill consists of white, or sometimes grey-brown, *sascab* with scattered dark streaks of old topsoil in the lower levels. Fortunately for us, this fill covered up an earlier building and built surfaces, and elsewhere was leveled off to serve as foundations for later ones. We examined two such buildings along the northwestern segment of the embankment. The first was Structure XXV (***Fig. 1***), a 50-m long, well-preserved range structure built atop a flattened-off section of the embankment just behind the imposing palace Structure XIII. Structure XXV is firmly of Late Classic date and is itself underlain by floors dating from 350 to 650 CE that were also built atop the old embankment deposits. The latest possible date for the earthwork is thus about 350 CE.[3]

Water Management or Reservoir?

In 2005, the archaeologist Benavides (2005:16) recycled the old idea that "Becan is particularly important for being surrounded by a ditch that gathered rain water and facilitated its use," although he grudgingly admitted that the reservoir might also have come in handy during "war times." Bueno Cano had earlier advanced this opinion in his 1999 overview and synthesis of Becan's archaeology, asserting that the ditch and parapet constituted no more than "*un almacén para agua*," or reservoir (Bueno Cano 1999:36).

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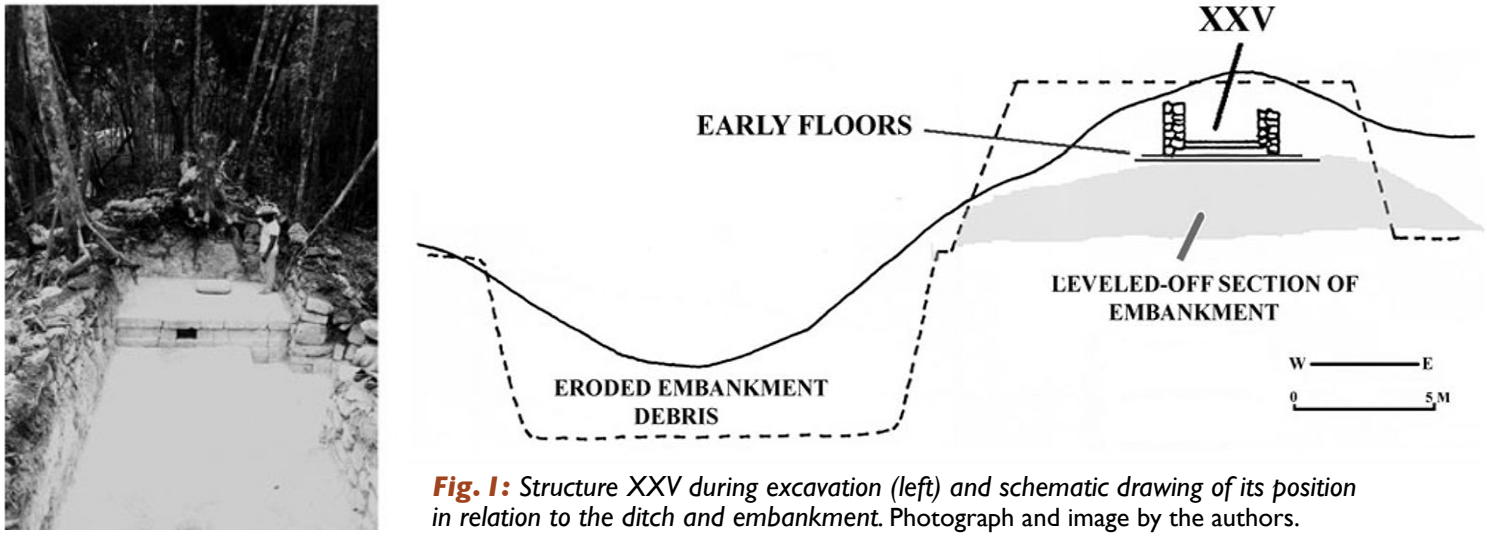


Fig. 1: *Structure XXV during excavation (left) and schematic drawing of its position in relation to the ditch and embankment.* Photograph and image by the authors.

1 Webster's dissertation dates to 1972 and Ball's to 1973. Both were later published by the Middle American Research Institute in 1976 and 1977 respectively. In this article we cite the later, more accessible, and slightly revised versions.

2 Slovenian Academy of Sciences and Arts Archaeological Project in Southeastern Campeche, seasons 2013, 2014, and 2017.

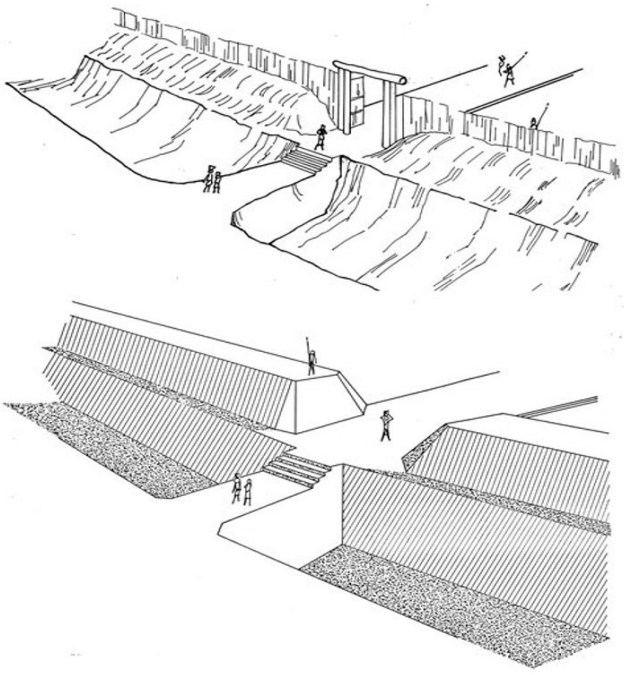
3 To Richard E.W. Adams's considerable and vociferous annoyance at the "waste" of effort, Ball re-excavated Structure XXV in 1973 to double check these findings, selecting a different room in the five-chamber building for clearing and pitting. He obtained the same results as Webster did in 1970.

Becan During the Snake Dynasty/Tikal Conflicts

by Joseph W. Ball of San Diego State University
and David Webster of The Pennsylvania State University *continued from previous page*

Campaña Valenzuela, who oversaw major consolidation and restoration at the site between 1999 and 2004, similarly proffered a number of unsupported assertions that the great ditch and parapet amounted to nothing more than an elaborate drainage system and giant borrow pit bordering commoner residential platforms, all possibly dating no earlier than the beginning of the Terminal Classic period. These opinions were both puzzling and groundless.

Let us be very clear about this water business. Despite its unfortunate name, the ditch was not formed by water, it is not a *barranca* in any sense of the word; it was not a water reservoir, nor was it any other kind of intentional water feature.[4] A short anecdote shows how the water management hypothesis has nevertheless long exercised a tenacious grip on some archaeological imaginations. In the mid-1990s *Arqueología Mexicana* solicited an article on Becan from Webster (Webster 1996). The editors requested reconstruction drawings of the earthwork, which he duly provided (***Fig. 2A***). When the article appeared in 1996, the composite illustration made from Webster's drawings of a dry ditch was curiously transmuted into a water-filled moat (***Fig. 2B***), despite the fact that he has always denied such an explanation and did not make this claim in the text of the article, in his submitted drawings, or anywhere else.[5]



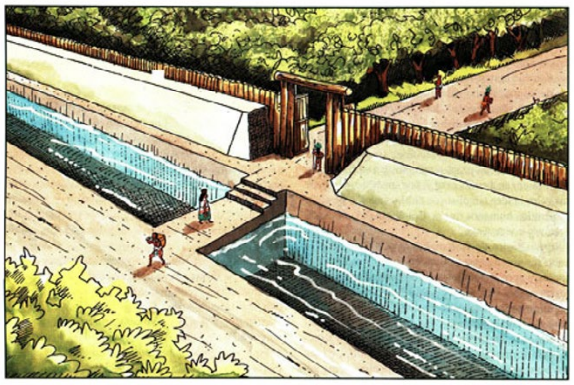


Fig. 2: *Webster's submitted images (above) and the mysteriously transformed published version.*

As far as we know, Webster and his workmen are the only people who have recently stood on the original bottom of the ditch and examined its deposits (***Fig. 3***). Whatever its incidental hydrological or other functions, the earthwork was intended as a dry ditch and embankment fortification pure and simple, as you see in Webster's submitted images above right. Becan's vigorous Late Preclassic settlement expansion required masses of hard fill to level off the outcrop, to build the first big formal plazas and structures, and to produce plaster to surface them. Caprock from the ditch was ideal for these purposes.

Pre-Pkluum Becan

Based on the extent and monumentality of Pakluum-dated construction across the site, in his dissertation Ball (1973) envisioned Late Preclassic Becan as the "socio-political or ceremonial heart of the region" and fixed Becan's initial occupation early in the Late Preclassic. We now know that lurking behind the abundant Pakluum constructions, ceramics, and household remains is an even deeper occupation than he suspected. Not until Ball's 1977 MARI monograph did he identify and add the Mamom horizon Acachen complex, based on discoveries made during the 1973 University of Wisconsin excavations.

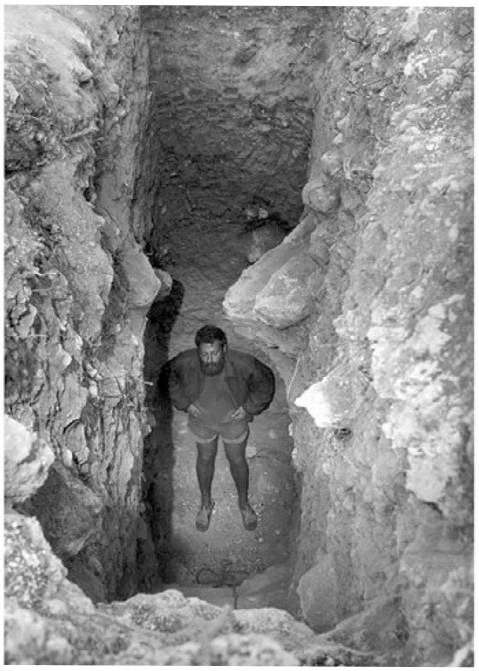


Fig. 3: *Webster on the floor of a deep ditch sounding.* Photograph by the authors.

Ball later examined and photographed vessels (see ***Fig. 5*** next page) in the Instituto Nacional de Antropología e Historia collections in Merida and he recognized them as troublesomely aberrant. Since then, based on publication of numerous early finds from throughout the Maya lowlands, he has come to recognize these vessels as belonging to types and varieties established at Cuello, Belize. They belong to the pre-Mamom Bladen ceramic complex, dated to ca. 800–550 BCE. *(continued on next page)*

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4 Some other early defenses do combine earthworks with water barriers, as at Tintal, Edzna, Cerros, and possibly Punta de Chimino and Nixtun-Ch'ich'.

5 They also unilaterally titled the article "Una ciudad maya fortificada: Becán, Campeche," despite the fact that Webster (1996) would never label Becan a "city."

Becan During the Snake Dynasty/Tikal Conflicts

by Joseph W. Ball of San Diego State University
and David Webster of The Pennsylvania State University *continued from previous page*

Despite the small sample of pre-Acachen complex sherds from Becan, it seems certain that there was already a well-established community there by the early to mid first millennium BCE, with its later Pakluum florescence, including the earthwork, signaling its leap to regional prominence.

Becan's Middle Preclassic settlers were probably too few to muster the labor necessary for big constructions. Although the size of the region's later Pakluum population is unknown, such a labor force was clearly available by that time.[6] Unlike accretional Maya buildings such as those in Tikal's North Acropolis or in Copan's Acropolis, the Becan earthwork was built as a single effort over a comparatively short time, with only a few later modifications.

A full-time work force of 1,000 people could have built the earthworks in a year or so, or somewhat more if there were a timber palisade or some sort of screen or hedge of thorny vegetation atop the embankment (Webster 1976:97).

Many Times or Intervals of Trouble

Consider the many potential times of trouble for Becan, both general and specific, that have been identified by research since 1970:

(1) A major Late Preclassic dry spell from about 100–300 CE (Dunning et. al 2014; Ebert et al. 2017).
(2) Disruption of the great El Mirador polities at about 150–250 CE, characterized by political collapse, new institutions of kingship, and also by population declines or diasporas.
(3) Pulses of general Teotihuacan-related influence in the Maya lowlands between 200–400 CE that roughly correlate with Ball's detection of an Early Classic decline at Becan at about 250–450 CE.[7]
(4) The "arrival of strangers" at Tikal in 378 CE and the expansion of a Teotihuacan/Tikal political order.
(5) Archaeological evidence strongly suggestive of an attack on Becan during late Chacsik or initial Sabucan times, between ca. 400 and 460/500 CE.

Fig. 4: *An Early Middle Preclassic (cached) offering bowl excavated 400 m south-southeast of the Becan fortifications. Other evidence of MPC occupation at Becan is spotty and thinly dispersed suggesting it was only late in the era (after 600 BCE) that the site was permanently settled. Only 24 km to the north, however, the newly discovered (2013) site of Chactun has yielded abundant and dense deposits of MPC date indicating that Maya pioneers were present there and likely elsewhere in the area from as early as 800 BCE on.*

(6) The struggles between the Kaanu'l and Tikal hegemonies that began about 540 CE and lasted until about 750 CE.
(7) Disruption related to volcanic events of the mid-sixth century, including the eruption of the Ilopango volcano in El Salvador.[8]
(8) Ball's (2014) recent detection of an interval of serious decline or outright abandonment at Becan between about 730/750 and 830 CE, followed by repopulation by people using distinctive, northern-related pottery.
(9) The general turmoil of the southern Maya collapse between about 750 and 900 CE.[9]
(10) The proposed great regional "megadroughts" between about 850 and 1100 CE.

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6 Thomas' thorough but restricted (3 km^2) settlement survey around Becan did produce some numbers. He estimated a maximal Late Preclassic population of 1,316 people for this zone, and a density of 479 people per km^2 (Thomas 1981:109–112). Calculated this way, the Late Preclassic population was larger and denser than at any later time period, and there was a bimodal demographic profile for Becan's occupational history. Density implications were still unclear because of uncertainty about how the Pakluum population fits its 550-year duration. When he adjusted his estimates by ceramic phase duration, a more normal curve resulted with a proportionately much reduced Pakluum population. How far Becan's political hinterland extended at 100–250 CE is unknown.

7 Ball originally thought that Becan's Early Classic Chacsik phase was a time of decline and a distinct fall-off in construction, with outlying population near the earthworks. Thomas (1981:98) instead detected continued expansion of peripheral population, though agreeing that construction was sparse.

8 The Ilopango eruption was equated by many volcanologists with the famous 536 CE event that affected many parts of the world. New research now suggests that there were several major eruptions during the interval, and that Ilopango probably blew in 539–540 CE, although some would put it earlier, at about 431 CE.

9 Becan's Late Classic "collapse" around the middle of the eighth century superficially aligns with the larger Classic collapse throughout the central and southern lowlands. Its period of abandonment and upheaval was of short duration, however, and was followed by demographic resurgence and considerable architectural vigor.

Becan During the Snake Dynasty/Tikal Conflicts

by Joseph W. Ball of San Diego State University
and David Webster of The Pennsylvania State University *continued from previous page*

We can regard these episodes separately, but they resolve themselves into complex concatenations of vulnerability as graphed out in subsequent figures. The question is, how do we apportion potential construction, alteration, or extended use of the earthwork among all this potential instability? We surmised in 1970 that Becan might have suffered some sort of Teotihuacan-related threat or actual attack around 440–460 CE, more or less in line with presumed conflict between Tikal and Uaxactun, and just before what then seemed to be a major Tikal hiatus.

An Early Classic Attack on Becan During the Great Hegemonic Struggles

The big threat (options 4–6) that might be linked to violence at Becan was the inception of the Tikal/Snake dynasty wars around 540 CE, which suspiciously coincides with estimates for the Ilopango eruption. Archaeological data supporting this attack on Becan has never been published, apart from short comments and a brief summary by Ball (1971:25–26, 1977 et al.:170–171, 1979).

Glossware tripod cylinder vases and apron lids fragments are not found at Becan during Chacsik times, but are abundant in the lowermost Sabucan deposits and levels. Then they entirely disappear. Such wares are, of course, hallmarks of Teotihuacan influence during the southern lowland Tzakol 3 horizon of the Early Classic after 378 CE, and well-known from literally all southern lowland sites. Several authors have remarked in passing that these form(s) do not occur at Calakmul or Dzibanche, at least as far as is known to date from the published literature.

Two separate test pits were situated to the immediate north and northeast of the north end of the Late Classic palace complex, collectively called "Structure XIII." These two pits, whose contents were later analyzed by Ball and Rovner, tapped into an apparent early Sabucan destruction level strewn with human skeletal remains. Five bifacial broken dart or spear points were recovered from deposits of ambiguous Chacsik/Sabucan date from Structure XIV and from the two destruction-level pits. Four of the points were made of green obsidian, and one from a grey variety from an unidentified central Mexican source according to PIXE analysis. The precise dating and significance of these remains are open questions, but clues come from Becan's obsidian and ceramic assemblages.

Political Implications of Becan's Obsidian

Most pertinent to our rehabilitation of Becan is the chronological distribution of central Mexican green obsidian within the confines of the earthwork. Telltale clear green to specular gold-sheen obsidians were quantitatively abundant. Becan is deep in Snake country, about 70 km northeast of Calakmul (***Fig. 5***). We find it difficult to imagine that it was unaffected by the repeated Kaanu'l wars with Tikal, including those that occurred between 695 and 744 CE as Tikal recovered. It is believed that central Mexican "green" was not commodified at this early date, and argues that its presence reflects the existence of important political and/or social ties to Tikal and thence, indirectly, to Teotihuacan, rather than any commercial interactions. Obsidian from the presumably commodified El Chayal source in Guatemala is well-represented, even abundant, from the Late Preclassic through the entire Early Classic and the following Late and Terminal Classic at Becan, Tikal, and Calakmul.

(1) Central Mexican green obsidian is well-represented at Becan from terminal facet Pakluum through late facet Chacsik times (ca. 150–400/460 CE).

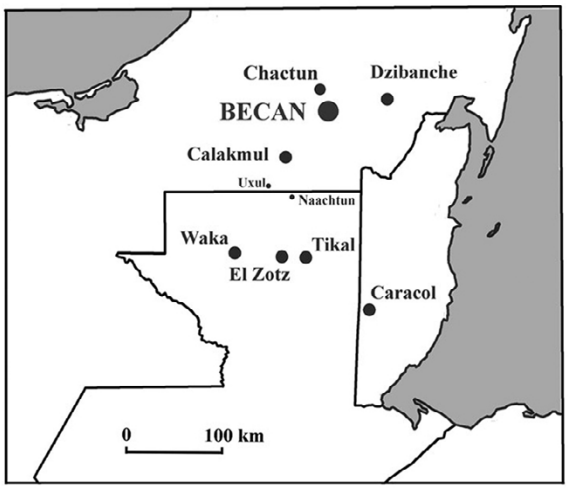

Fig. 5: *Becan in Snakeland.* Map by the authors.

(2) Central Mexican green obsidian is also well-represented at Tikal during its Early Classic Manik phase (ca. 250–550 CE), after first appearing in Terminal Preclassic contexts.

(3) Green obsidian from any source is conspicuously absent from Calakmul throughout the full Classic period, and clearly this commodity was unavailable to the rulers of the Kaanu'l polity, particularly during the Early Classic.

All this suggests direct interactions and commercial or other ties linking fortified Chacsik Becan to Tikal, rather than to the capitals of the Kaanu'l dynasty, Dzibanche and Calakmul, that flank it to the northeast and southwest.

Two other southern Campeche-Peten centers, Uxul and Naachtun, lie well south of Becan between Calakmul and Tikal. They have also produced large quantities of central Mexican green obsidian, seemingly restricted to high status elite contexts in both cases. From this perspective, the fortifications seem to reflect Becan's very precarious existence within the heart of Snake territory.

Becan's rapid failure and abandonment in the first half of the eighth century might readily reflect the collapsing fortunes of the Kaanu'l polity. Throughout most of its archaeologically documented history, Becan was a pivotal crossroad on the overland transpeninsular route between the Caribbean and the Gulf of Mexico.

It is inconceivable that the weakening political power and economic influence of the giant center to the southwest had no serious reverberations on

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Becan During the Snake Dynasty/Tikal Conflicts

by Joseph W. Ball of San Diego State University
and David Webster of The Pennsylvania State University *continued from previous page*

Becan's economic and political fortunes and viability. We submit that this was exactly the case, and that the defeats of Calakmul in the very late seventh and early eighth centuries had devastating consequences for Bejuco-era Becan.

A Testable Conjecture

We think the preceding information boils down to this new, plausible, and testable scenario:

(1) Becan's earthwork was originally built before 200 CE in reaction to some unknown Late Preclassic threat or crisis.

(2) Sometime well before the "arrival of strangers" at Tikal in 378 CE, the latter had established a peaceful commercial or political presence at Becan, whose earthwork might already have been seen as a strategic asset.

(3) In the early to middle fifth century, sometime after the "arrival of strangers," the influence and perhaps actual presence of the expanding Tikal/Teotihuacan political order at Becan intensified significantly, ushering in the distinctive Sabucan ceramic phase. It began before we have textual evidence of the Tikal/Snake wars, suggesting earlier, unrecorded antagonisms between the fledgling "superpowers."

(4) The Becan-Peten alliance constituted both a direct tactical and strategic threat to the rising Snake rulers. Sometime late in the sixth century they successfully and violently attacked Becan and incorporated it into their local dependencies. Maintenance of the earthwork ceased, and the Snake lords could shift their base south to Calakmul without having a Peten outpost to their rear.

(5) The major decline or abandonment of Becan that Ball detected between about 730/750 and 830 CE coincided with the final defeat and unraveling of the Kaanu'l political order.

Summary

Becan's fortifications were built with a specific threat in mind, but one so early we will never know about it from inscriptions. Nevertheless, their scale and construction made them very durable and situationally useful for the duration of Becan's long occupational history, and not just as sources of building material. Even after maintenance ceased around 600 CE and in their subsequent dilapidated condition they remained much more formidable obstacles than the rickety little fortifications at Late or Terminal Classic centers such as Dos Pilas or Aguateca.

And Becan was no flash-in-the-pan place as were some other Maya centers. Its lack of readable inscriptions is counterbalanced by its longevity, now extending from the early Middle Preclassic until the twelfth century, and its impressive resilience in the face of many successive crises.

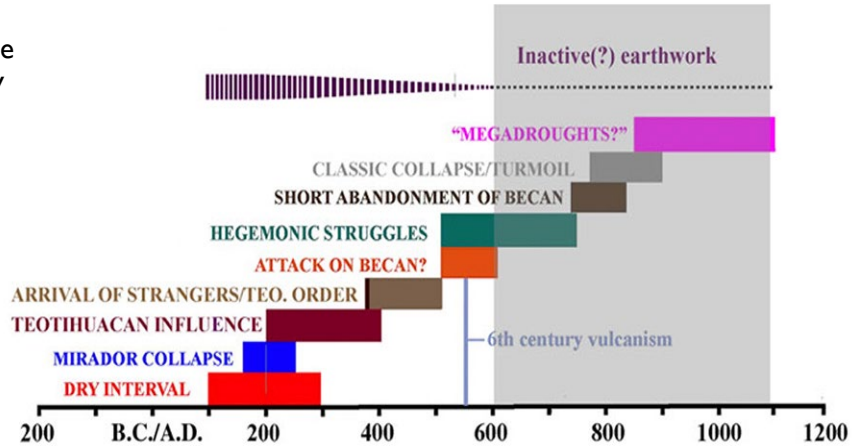

Fig. 6: *Times or intervals of plausible instability or crisis at Becan juxtaposed with interval of non-maintenance of the earthwork.* Image by the authors.

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