

## Shedding New Light on the Maya Stela from Hix Witz in Stuttgart

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### Abstract

A Maya stela with a hieroglyphic text and a portrayal of a Maya ruler that is now in the collections of the Linden Museum in Stuttgart, Germany (inventory no. M 30751), has received scant attention from scholars to date<sup>1</sup>. This stela is the focus of current research by the authors as members of the project “Text Database and Dictionary of Classic Mayan”, who have been collaborating with Doris Kurella of the Linden Museum since 2018. Using the project’s 3D white light scanner, the authors created a high-resolution digital version and three-dimensional visualization of the stela in the storage facilities of the Linden Museum (Figures 1–2). Digital image processing was employed to render legible text passages that can now barely be read with the naked eye and to clarify aspects of the ruler’s representation. These developments have led to new understanding of the contents and origin of the stela, which we are presenting here in English for the first time.

Our analysis concludes that the monument illustrates a previously unknown Maya king of the small polity of Hix Witz (English “Ocelot/Margay Hill”) from the early ninth century CE and most likely originates from Zapote Bobal in Petén, Guatemala, or a neighboring site. Together with the nearby site of El Pajal (see Figure 11), these two settlements constitute the core of a small, Late Classic polity whose rulers referred to themselves as the kings of Hix Witz and competed with other small polities for regional dominance and control of resources between 600 and 850. According to the inscription, the front of the stela shows a ruler of Hix Witz/Zapote Bobal, whose name is only partially interpretable as *Ahiin Ahk ? Witz* and who presumably ascended to the throne in the late eighth or early ninth century as the last king of this polity. Our investigations thus add to the list of historical persons whose names appear in the Maya hieroglyphic corpus between 465 and ca. 800 CE in connection with the toponymic title of Hix Witz.

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**Figure 1. The Maya stela in Stuttgart, front. Phong rendering with color texture. 3D model by Text Database and Dictionary of Classic Mayan.**



Figure 2. The Maya stela in Stuttgart, front. Lambertian radiance scaling. 3D Model by Text Database and Dictionary of Classic Mayan.

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### Discovery and Research History

In 1979, Friedrich Kussmaul of the Linden Museum Stuttgart, State Museum of Ethnology, reported on a gift to the museum of pre-Columbian artifacts from Mesoamerica (Kussmaul 1979:37). The objects acquired on November 16, 1978, included a Maya stela mounted on metal backing with a hieroglyphic text and an image of a nobleman; according to the report, the monument dated to the latter half of the eighth century CE and originated from the northern Petén in Guatemala (Schulze-Thulin 1981:82). Berthold Riese wrote in an unpublished comment dated January 14, 1979, that the stela was too thin (10 cm) and had in fact been trimmed on the backside<sup>2</sup>. Chainsaw marks on the backside also indicate that the stela was presumably trimmed at the location of discovery for transportation. According to Axel Schulze-Thulin (1981:82), the limestone stela was a gift from the Stolper Galleries in Munich and entered the museum’s collections in 1978 with the inventory number M 30751 (Mayer 1984:25). The monument’s origin and how it arrived in Europe remain unknown.

In his letter to the museum dated February 10, 1979, Berthold Riese concluded that the stela could be dated on stylistic grounds to  $9.17.0.0.0 \pm 2.0.0.0$ , or ca. 771 CE  $\pm 40$ . He offered two possible reconstructions for the Calendar Round date 6 Ahau 8 Pop, namely 9.15.4.10.0 (734 CE) or 9.17.17.5.0 (787 CE [sic!]), with a preference for the latter date. According to Riese, this date marked the birth of the person who was both named in the text and portrayed on the stela. Based on the style and quality of limestone, he concluded that the stela originated from the northern Petén, the southern border region of Campeche, or Quintana Roo, Mexico.

In 1984, Karl Herbert Mayer became the first to publish an image of the stela, as part of his project documenting and cataloguing Maya sculptures of unknown provenance (Mayer 1984:25, Pl. 25). According to Mayer, the stela measured 162 cm tall and 90 cm wide. He reported that the sculptured front manifested significant erosion in some areas, especially at the bottom, and that the edges were similarly damaged. He described that the front illustrates a standing male from a frontal view, with his head shown in profile looking toward the left and a figural scepter in his hand. On the front above the figure’s head, there is a text consisting of two glyph blocks, which Mayer designated with the coordinates A1–A2. The second text field was carved under the figure’s outstretched arm and consists of four glyph blocks, upon which he conferred the coordinates B1–B4 (Mayer 1984:25). He referred to the monument in his documentation project as „Stela with figure and glyphs“ and assigned it the abbreviation MA (EU-12) (Mayer 1984:101).

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<sup>2</sup> Information from the archive of Berthold Riese, „Materialien der Maya Inschriften Dokumentation“, University of Bonn, Department of Anthropology of the Americas, curated by the project Text Database and Dictionary of Classic Mayan, Bonn.

Because of the offset placement of the glyph blocks in the upper text field over the figure's head, Peter Mathews expressed doubts about the stela's authenticity in a written communication to Karl Herbert Mayer; Berthold Riese and Karl Herbert Mayer, however did not believe it to be a fake (Mayer 1984:25). Reexamination of the stela by the authors in early 2018 has confirmed the monument's authenticity. Chainsaw and hack marks on the backside are, firstly, an indication that it is an original that was probably trimmed down *in situ* for transport. In addition, analysis of the hieroglyphic text indicates that there are no precedents in the corpus of Maya hieroglyphic inscriptions from which forgers could have drawn. Our research demonstrates that the monument is authentic and that the content of its inscription is indubitable, both linguistically and historically.

Moreover, from an iconographic perspective, the motif, composition, and style of the figural representation on the Stuttgart stela correspond with images on other monuments that were first discovered approximately a decade ago at the archaeological site of Zapote Bobal, Petén, the purported origin of this stela. Recently, Erik Boot (2014:note 15) suggested that the stela, if authentic, could have originated from Zapote Bobal or nearby, because he suspected based on the photos published by Mayer (1984:Pl. 25) that glyph block A2 contained the Emblem Glyph of Hix Witz, a proposal that our inspection could finally confirm.

In sum, we consider the Stuttgart stela to be authentic. In the remainder of this article, we present our documentation and analysis of this little-known Maya monument.

### Redocumentation and Analysis of the Maya Stela in Stuttgart

Between January 29 and February 2, 2018, the authors documented the Stuttgart stela and additional artifacts at the Linden Museum with the high-resolution, close-range scanner Breuckmann SmartScan C5. The goal of the Text Database and Dictionary of Classic Mayan project, which is based at the University of Bonn and directed by Nikolai Grube, is to document research on the most significant script in the pre-Columbian Americas in the virtual research environment TextGrid, to make Maya hieroglyphic texts accessible in a database, and to compile a dictionary of Classic Mayan based on this work (Prager et al. 2018). To this end, the project is collecting all available images of text-bearing Maya objects and making them accessible for research in a digital archive. These images constitute the foundation for the first complete, illustrated inventory of the image- and text-bearing objects of this important civilization. Our interest extends not only to current documentation in all existing media, but also to photographs, drawings, molds, casts, and rubbings from the late nineteenth and early twentieth centuries.

In addition, the latest computer applications and topometric measurement procedures allow us to “topographically” register the third, hitherto undocumented dimension of Maya writing and thus to investigate the hieroglyphs three-dimensionally and to read texts that were not legible using traditional documentation methods. To this end, we rely on the latest technology, including for our work in the Linden Museum. The 3D scanner can represent the texture and topography of text-bearing objects so precisely that text passages that are barely visible can be made legible again with the correct rendering procedures and filters—a process which we also applied to the Stuttgart stela.

For nearly twenty years now, tools and procedures from optical measurement technology are being used to register cultural heritage objects three-dimensionally, contact-free, and with high precision. The technology is based on industrial measurement processes and thus offers the greatest possible resolution and precision. Color cameras allow the surface color to be registered while scanning. Compared to other imaging procedures, measurement with optical, close-range scanners is more advantageous than with traditional, two-dimensional documentation methods. Artificial light sources used to illuminate objects can create disruptive flares, glares, occlusion, and shadows. A three-

dimensional close-range scanner can largely compensate for these; interferences such as flares or shadows can be algorithmically extrapolated during post-processing.

During close-range scanning, the surface of an artifact is registered in millions of points that are then assembled into a point cloud. This procedure documents the object so precisely that it can recognize the finest traces of its working and structure that remain invisible even to the eye of the experienced researcher (Rieke-Zapp and Breuckmann 2014), for instance by simulating different lighting angles. Surfaces that are eroded or thought to be nearly completely lost can be reconstructed or made more clearly visible with special algorithms (Mara 2016). Finally, 3D scanning offers the opportunity to digitally archive cultural patrimony in a form that is true to the original and can be made available for research through databases. In Maya research, this technology has been used for over ten years by the Corpus of Maya Hieroglyphic Inscriptions Project at Harvard University for documenting stone inscriptions from Yaxchilan, Copan, Tikal, and Holmul (Fash and Tokovinine 2008; Tokovinine 2013).

### Procedures for 3D Processing

The white light scanner permits full-color projections and uses structured light to register the surface of an object: the object is illuminated by the LED light source with a structured light pattern, and the resulting deformation of the pattern is simultaneously registered by two digital cameras set at different angles. The missing depth information is calculated by actively triangulating from the 2D images. Through this process, the form and texture of an artifact, as well as color information, are represented as a point cloud consisting of millions of vertices with a precision of less than 10  $\mu\text{m}$ . Subsequently, a polygon mesh is generated from this point cloud. Large objects or ones with complex surface geometry usually require multiple scans; in this case, the scanner is placed in different positions relative to the object for each round, in order to avoid shadows where no measurements are recorded. Reflective or dark surfaces and objects with undercutting also require a greater number of scans, which increases processing time.

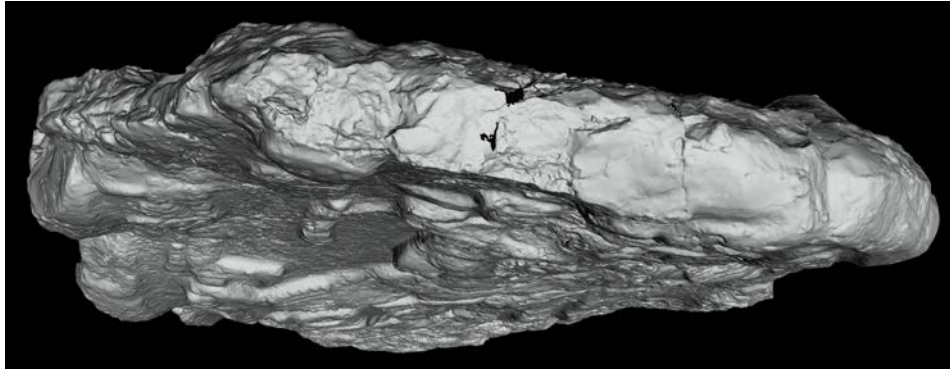
The individual images are directly linked in the work station and converted to planar, polygonal objects. The current version of the operating software Optocat allows automatic alignment and orientation of the individual scans; for more complex surfaces, corresponding areas are manually marked and then oriented by the software. The detail precision of 3D scanning depends on the selected lens. Our scanner system is modular, whereby the configuration of the scanner can be adjusted according to object size and desired detail. By changing the lens, the measurement area („field of view“ or FOV) can be increased or decreased: the SmartScan’s precision improves as the field of view is reduced. The smallest field of view (FOV 60) measures 48 x 36 mm, with a precision of 0.007 mm. The largest field of view (FOV 850) registers an area of 660 x 495 mm with one scan and records the surface with a precision of 0.061 mm.

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For our work in Stuttgart, we used FOV 200 (158 x 131 mm), which achieves a resolution of 69  $\mu\text{m}$ . Prior to scanning, the sensor was mounted on a stable tripod and was ready for use after the field of view had been calibrated. Each individual scan required approximately 60 seconds, in addition to the time needed to reposition the scanner and tripod. Automatic orientation of the individual scans reduced immediate processing of the scan data and thus significantly diminished the time needed relative to manual procedures. The stela was recorded with a total of 399 individual, usable scans. The mesh that was merged and cleaned from them had, at maximum resolution, 343.09 million surface triangles and 171.58 million vertices, with a file size of 6.55 GB. A version that has been compressed to 3.6 vertices is available online via Sketchfab: <https://bit.ly/2WP27Zx>.

## Description

Analysis of the 3D scan provides the first highly precise measurements of the stela, based on a bounding frame around the mesh that is exact to the micrometer. The stela has a height of 166.2 cm, a width of 95.5 cm and a maximum depth of 31.8 cm, which is significantly greater than the current thickness of the stone (ca. 10 cm) due to a torsion on its surface.



**Figure 3. Oblique view of the stela's upper and front sides; note the torsion toward the lower right corner. Phong rendering without color texture.**

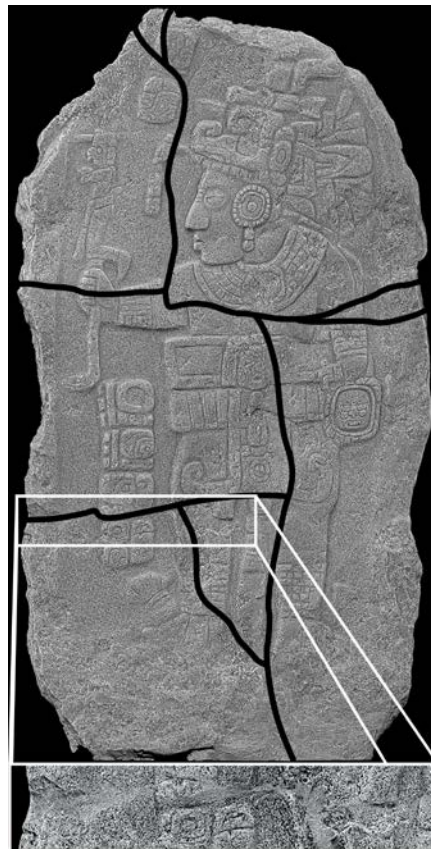
The stela's form is irregular and follows the natural surface of the stone block used, a trait which is particularly typical of Early Classic monuments but also characterizes monuments sculpted in the central Petén at the end of the Late Classic era. The front edges are more or less parallel, with notably concave and convex aberrations. The stone tapers toward the top, at a slant on the left and in an arch on the right<sup>3</sup>. The stone contorts diagonally backward just below the middle of the front, from approximately the illustrated figure's right shoulder to his left foot (Figure 3). The front surface is surrounded on the left and right sides by a raised outline. The backside is crudely cut, with hack and parallel chainsaw marks visible in multiple places. Large portions of the back are covered by a colored, fine-grained mortar (Figure 4) where the supporting frame composed of two steel beams was installed and secured with screws.



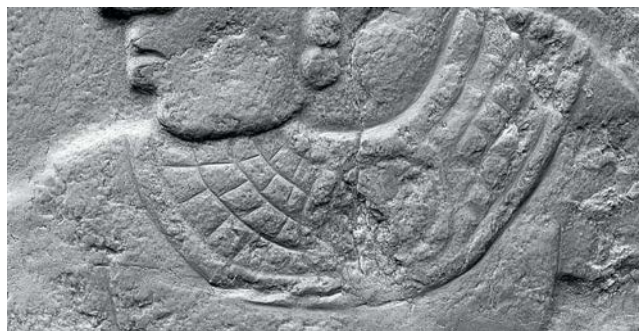
**Figure 4. Detail of the upper left edge with parallel chainsaw marks and mortar deposits on the backside. Phong rendering with color texture.**

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<sup>3</sup> All orientations are indicated from the position of a viewer facing the stela front.



**Figure 5. Drawing of the recognizable fragments (above) and detail of a break filled with mortar (below). Lambertian shading without color texture.**



**Figure 6. Detail of the collar with incisions tracing the contour of jade beads on the left-hand side. Lambertian shading without color texture.**

The monument was broken into at least nine fragments; areas where breaks were filled with colored mortar are clearly visible (Figure 5). It can no longer be determined whether the breakage was partially or entirely intentional to facilitate looting. The relief carving on the front is eroded, but generally still well-preserved. Signs of more severe erosion are only apparent at the base. Modern carving and tracing are present to the left of the collar, probably on the round shield, and possibly also on glyph block B4; these marks likely result from contemporary efforts to enhance eroded details (Figure 6).



## Epigraphy

The stela text consists of six glyph blocks, which are divided into two text fields (Figure 7)<sup>4</sup>. The first, smaller text field (A1–A2) is located in front of the figure’s headdress and is slightly inclined toward the right. The second text field (B1–B4) is vertical and positioned to the left of the figure’s torso and legs. The outer shape of some glyph blocks in both text fields is unusually rounded (especially A2) or irregular and thus divergent from the usual, quadrilateral form (especially B4).

A1	A2	B1	B2	B3	B4
*1br:757s t:?	168bt:[523ex <sup>d</sup> 529st]	5006st.[1500bv <sup>5</sup> 33st]	5008st. [[551st <sup>2</sup> 281st]:1 30bh]	[740st:126bh].1 81br	[844st:[743bl.528st]].[??: 529st]
*u:BAH:h i/ji	AJAW:[HIX <sup>d</sup> WITZ]	6.[DAY <sup>o</sup> AJAW]	8.[[JAL <sup>o</sup> K’AN]:wa]	[SIH:ya].ja	AHIN:[a.ku]].[?:WITZ]
u=baah <sup>hi/ji</sup> i	hix+witz+ajaw	6 <sup>o</sup> AJAW	8 k’an jal-wa	sih <sup>ya</sup> =ja	ahiin a-ku ? witz
u-baah-∅	hix+witz+ajaw	wak ajaw	8 k’an jalaw	sih>y-aj-∅	ahiin a[h]k? witz
3s.POSS- N:image- 3s.ABS	N:ocelot/margay+N:hill+ N:lord	NUM:six N:lord	NUM:eight ADJ:yellow N:paca	N:gift- INTRVZ.INCH- 3s.ABS	N:alligator N:turtle NN:? N:hill
it [is] his image	Lord of Hix Witz	[on the day] 6 Ahau	8 Pop	was born	Ahiin Ahk ? Witz

„It is the image of the lord of Hix Witz, Ahiin Ahk ? Witz, who was born on [the day] 6 Ahau 8 Pop (= 9.17.17.5.0 = February 2, 788 CE).“

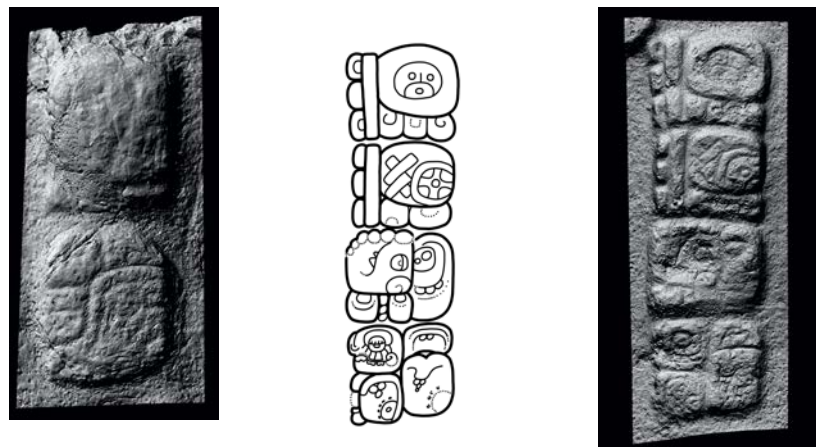


Figure 7. Drawings of both text fields by Christian Prager with Phong rendering without color texture.

Despite the strong erosion and the partial cover of mortar, we were able to identify a phonetic complement under the morphograph **BAH** in block A1; nonetheless, we could not determine whether it is the syllabic sign **hi** or **ji**, if we assume that, based on the late date, the text was written at a time when the orthographic difference between /h/ and /j/ had largely been suspended (Grube 2004:79–81). Instead of the personal name of the depicted individual as would be expected (Houston und Stuart 1998:79–81), only a title appears in block A2, in the form of the so-called Emblem Glyph that makes an impersonal reference to the illustrated figure as “lord of Hix Witz”. The correlation of

<sup>4</sup> Numeric codes according to the standards set by J. Eric S. Thompson (1962) with corrections and emendations by the project. Sign variants are indicated by a two-letter code appended to the numeric code (Prager and Gronemeyer 2016).

*Hix* with a specific species has proved to be problematic (Kettunen und Helmke 2008:97); it refers to either an ocelot or a margay, both of which belong to the genus *Leopardus*.

The month referred to here as Pop (B1), a designation attested in Yucatec sources from the early colonial period (Landa 1959:88), appears in Classic Maya hieroglyphic texts as K'anjalaw and K'anjalab and is also recorded as <canhalib> in a Ch'ol Mayan colonial-era source. Its literal translation as "yellow plait" is first and foremost an expression for "mat"; the Yucatec month name is a direct translation of this meaning (Grube 1990:53). Etymologically, however, *jalaw* is also the name of the paca or *tepezcuintle* (Kaufman 2003:587), which is one of the largest rodents in Central and South America and whose fur color and markings are signaled by the specification "yellow". Notably, most of the 19 month names from the Classic Maya calendar represent either animal or plant names (compare Prager 2014).

The upper right hieroglyph in block B4, which records the personal name of the portrayed individual, is unfortunately too eroded for secure identification. It may contain one of the color adjectives **YAX** ("green") or **IK'** ("black"), or another noun **CHAN** ("sky").

### Iconography

The front of the stela is dominated by the portrait of standing male individual, shown facing left in profile view. His feet point outward, his (anatomically) right arm reaches out horizontally from his body, and his left arm is bent laterally.

The illustrated person wears a headdress with a mask depicting the head of a reptile wearing earspools. The general form of the reptile head bears no species-specific traits, but its spiral, upward-pointing nose suggests that it may represent an alligator head. The central element of the headdress, along with the supraorbital or supranasal component that is similarly spiral, together thus refer to the name recorded in glyph block B4 and identify the individual as the ruler Ahiin Ahk ? Witz.

The remaining elements of the headdress consist of knotted bands that depict the so-called "Mexican year sign". This feature constitutes a motif borrowed from the symbolic system of Teotihuacan that constitutes a stylized representation of a bundle (Winning 1979). In Teotihuacan iconography, it is also a component of the attire of gods, warriors, and possibly also warriors (Nielsen and Helmke 2018). In Late Classic Maya imagery, these motifs appear especially in combination with warrior dress and in representations that allude to dynastic foundings (Taube 1992, 2000, 2004; Taube und Varela Torrecilla 2003; García-Des Lauriers 2000; Stuart 2000; Sharer 2003; Martin und Grube 2008). They are also features of imagery representing the significance of Teotihuacan and its interaction with various regions and dynasties in the Maya lowlands and the rest of Mesoamerica during the Early Classic period (Martin 2003; Fash et al. 2009).

A string of beads dangles from the nose of the mask in the headdress down to the nose of the depicted individual. The incisions visible on his nose bridge are probably intended to represent a nose ornament, a feature best known from stucco busts recovered from the tomb of K'inich Janaab Pakal in Palenque, Chiapas, Mexico. On his ear, the ruler wears a round earspool with beaded rim, from which a dipartite strand of beads is suspended.

The shoulders are covered by a wide collar composed of multiple, closely spaced beads. The inner and outer rows consist of thinner elements and frame four rows of larger beads. In the middle, a large medallion dangles as a pectoral that extends the full width of the collar. The image on the medallion, however, can no longer be made out due to erosion. Each wrist is decorated with a wide wristband of multiple, dense rows of beads.

A wide belt is worn around the hips, with a forward-facing head on the front surrounded by knotted cloth bands. A slab or so-called “celt” dangles below its jaw from a string. Additional celts hang down from the belt. A simple, flared loincloth descends from the front center of the belt, and a wide strand of beads hangs down from the end of the loincloth to the person’s ankles. The man’s calf ornaments consist of leggings of multiple, closely set strands of beads. The details of the sandals are no longer visible due to erosion, but feathered tassels over the instep of the (anatomically) right foot are still apparent.

In his right, outstretched hand, the ruler holds a K’awiil scepter that he grasps on the serpent foot of God K (= K’awiil) (Coggins 1988). In his left hand, which is bent against his body, he sports a small, round shield whose circumference is trimmed with feathers and which probably depicts the face of the Sun God. The crossed bands visible on the face’s forehead and are not typical components of sun symbolism may be the result of modern sculpting. The original carver, moreover, seems to have had difficulties generating an anatomically correct depiction of the hand gripping the backside of the shield. Moreover, both arms seem unnaturally short, and the torso likewise seems extremely truncated in relation to the length of the legs.

The figure’s legs are depicted frontally with the feet facing outward, with the heel of the (anatomically) left foot slightly raised. The latter indicates a representation of a dance movement (Grube 1992; Looper 2009). The lack here of the gently bent leg that is also typical of dance scenes can likely be attributed to the aforementioned inaccuracies in representing the extremities. The body and its limbs here are, in general, represented disproportionately to each other and do not correspond to the canon of Classic Maya art, which generally illustrates correct proportions for the human body. This monument, in contrast, is an example of a stylistic development in carving at the end of the Late Classic that clearly attests to a decline in the quality of execution and aesthetic, a phenomenon which Tatiana Proskouriakoff denoted “decadent style” (Proskouriakoff 1950; also Houston 2018).

Similar images of dancing rulers with K’awiil scepters, shields, and other items are also found on other stelae from Zapote Bobal, like Stela 12 (Figure 8). Nonetheless, their artistic quality falls far short of that of earlier sculptures. As will be detailed below, the end of the eighth century saw a series of rulers follow each other in quick succession, as well as war-related references to people from Hix Witz in texts from the hegemonial powers of Piedras Negras and Yaxchilan. It is not unlikely that Ahiin Ahk ? Witz may have been the last known ruler of Hix Witz in the early ninth century and that no skilled sculptors were present in court at that time due to ongoing military conflicts, as well as a artistic general decline.

Notably, the figure of the dancing ruler on Stela 12 from Zapote Bobal features the same disproportionate representation of the human body as the Stuttgart Stela, as well as stylistic parallels in representing ornaments. Both figures display the same, unusual proportion of the midsection and extremities. The inscription on Stela 12, however, is executed at a much higher quality than that of the stela under discussion, and Stela 12 is also better preserved in general. Despite the nearly identical composition of their figural representations, the two monuments’ separation in time by ca. 60 years suggests that a monument from the same workshop as Zapote Bobal Stela 12 may have served as a model for the later Stuttgart Stela.



**Figure 8. Zapote Bobal Stela 12. Photo from the project "Atlas Epigráfico de Petén", CEMYK, with the permission of the Museo Nacional de Arqueología y Etnología de Guatemala.**

### Presumed Origin and Recontextualization

The summary of our iconographic and epigraphic analysis of the Stuttgart stela is that the monument most probably originated from Zapote Bobal or a neighboring site in the Department of Petén, Guatemala (Figure 9). Zapote Bobal is the modern designation for an archaeological site whose ancient name was Hix Witz, which was first translated as "Jaguar Hill" (Stuart 2003) but more precisely corresponds to "Ocelot" or "Margay Hill". Together with the nearby site El Pajal and possibly also La Joyanca, the sites constituted the core of a small polity whose rulers designated themselves the kings of Hix Witz and competed with other small polities between 600 and 850 CE for local dominance and resource control using political and marriage alliances, as well as warfare (Fitzsimmons 2015:235, 2012). In the center of Zapote Bobal, which contains multiple temples and residences, kings ruled with their families. With an authority founded on religion and history, the rulers of Hix Witz asserted their claim to power in word and image. They also created imposing architecture in the heart of their city-states that were surrounded by farming communities; these monumental structures served as a backdrop for public appearances and as an expression of their supreme power.



**Figure 9. Map of the central Petén with selected sites. Modified by Christian Prager, based on the high-relief satellite imagery from the Shuttle Radar Topography Mission (SRTM), PIA03364, used with permission of NASA/JPL-Caltech.**

Zapote Bobal lies just 26 km south of the San Pedro River, near the Sierra La Gloria. The site was discovered by Ian Graham in 1970 and explored by him again in 1982 (Fitzsimmons 2012:7). Graham registered and documented approximately a dozen inscribed stelae and altars for the Corpus of Maya Hieroglyphic Inscriptions Project (Fitzsimmons 2006). The site again became a focus of the La Joyanca Project in the early 2000s in response to looting (Fitzsimmons 2004; Breuil-Martínez et al. 2004). From 2004 to 2006, the Proyecto Petén Noroccidente directed by James Fitzsimmons, Laura Gámez, and Melanie Forné undertook archaeological and epigraphic study of Zapote Bobal (Fitzsimmons et al. 2009; Fitzsimmons 2004, 2005, 2007). Their work expanded the corpus of sculptures documented since the site's re-discovery by at least 25 carved stone monuments, which had originally been erected in rows. As of 2009, the project registered 47 total sculptures at the site (Fitzsimmons et al. 2009:44), including 25 altars (Altar A–Y), 19 stelae (Stela 1–17, 20, 21), and three miscellaneous sculptures (1–3). At least nine stelae and two altars bear inscriptions, and 10 stelae and 6 altars are carved (Barrios Villar et al. 2010). A series of inscriptions of unknown provenance on ceramics and carved in stone are also connected to Hix Witz and likely were produced in Hix Witz itself, although they are not considered part of the corpus of inscriptions from Zapote Bobal (Fitzsimmons 2012; Grube and Schubert 2016).

Legible calendrical dates from Zapote Bobal fall between 640 and 750 CE; however, ceramic finds attest that the settlement experienced its florescence between 600 and 850, and older finds indicate that the site was already occupied by the late Preclassic (Fitzsimmons 2015:234). Most of the eleven inscriptions discovered at Zapote Bobal have been published in the form of photographs, and a complete publication of the data with drawings of the texts is in progress (Fitzsimmons 2006).

David Stuart and Stephen Houston assumed that the settlement Hix Witz was located near these small polities or in the western area of what is now the Petén, but the toponym was long known only from hieroglyphic texts from Yaxchilan, Piedras Negras, and Itzimte, as well as unprovenanced ceramics (Stuart and Houston 1994:20). Even now, much of what is known about the history of Hix Witz is attested in outside texts (Gámez et al. 2007): it is recorded in Yaxchilan, for instance, that the local ruler known as “Bird Jaguar III” took King Xukub Chan Ahk of Hix Witz captive in 647; the latter was succeeded in Hix Witz by Utis Chan Ahk, who ruled until 663 (Vepretskii und Galeev 2016; Fitzsimmons 2012). In that same year, fourteen-year-old Janaab Ti’ O’ ascended to the Hix Witz throne—his second accession under the auspices of the ruler known as “Yuknoom the Great” from Calakmul in 669 provides evidence that Hix Witz became a vassal of this superpower while simultaneously under the influence of Piedras Negras in the west (Martin and Reents-Budet 2010; Beliaev et al. 2017:88). A panel from Piedras Negras shows nobles from Hix Witz presenting tribute to the king of Piedras Negras in 677. In keeping with political marriage practices that were widespread in the Classic Maya lowlands, women from Hix Witz were sent to Piedras Negras to be married and to thus strengthen ties between both city-states through familial relations (Martin and Grube 2008:122, 144).

Yet alliances between small polities in the Maya region were fragile, and it is likely that relations between Piedras Negras and Hix Witz were similarly contested and bloody. A mirror with an inscription and incised image that was recovered from the tomb of Ruler 4 of Piedras Negras, who died in 757, shows the decapitated head of a king of Hix Witz—an indication that Hix Witz probably tried to overturn its dependency on Piedras Negras during the reign of Ruler 4. Nonetheless, Piedras Negras confirmed its dominance over the dynasty in Zapote Bobal with the murder of the king of Hix Witz. Yaxchilan, which had been an adversary of Piedras Negras for decades, also secured the loyalty of Hix Witz during these bellicose and conflicted times: “Bird Jaguar IV”, who reigned from 752 to 768, married a woman from Hix Witz and thus cemented Yaxchilan’s ties with that polity (Martin and Grube 2008:131). These and other military and political events involving Hix Witz that are recorded in external inscriptions fall precisely within the period of legible calendrical dates from Zapote Bobal, between 640 and 750 CE.

The dynastic history of Zapote Bobal remains fragmentary because of the poor preservation of many stelae and the numerous external references on undated ceramics and stone monuments; moreover, many rulers’ personal names have only been partially deciphered, which complicates their identification (Gámez et al. 2007). According to Gámez, the first references to rulers of Hix Witz in inscriptions from La Joyanca and Yaxchilan are to a Chan Ahk in 485 and a Xukub Chan Ahk in 647. Utis Chan Ahk reigned between 647 and 663 (Vepretskii and Galeev 2016), and Janaab Ti’ O’ ascended to the throne around 663 and again in 669 (Beliaev et al. 2017:88), an event that clarified his vassal status. During his reign, Aj K’abnal Paat and Ix Hix Witz, who may have been members of the ruling elite, visited the king of Piedras Negras in 677. The reign of Janaab Ti’ O’ extended beyond 695 (Vepretskii and Galeev 2016).

The names of two further rulers are found on a series of badly eroded stelae from Zapote Bobal: ? Janaab around 740 and Taj Chan Ahk from 741 to 749. Additional individuals from Hix Witz who may have been kings or members of the ruling elite are attested in inscriptions from Yaxchilan and Piedras Negras and on unprovenanced ceramic vases. In Yaxchilan, Lady Ix Mut Bahlam is portrayed in 752 as the wife of Bird Jaguar IV, and in 757, the assassinated king ? Chan Ahk is depicted on the aforementioned mirror from Piedras Negras. In 771, a captive of Hix Witz is in Yaxchilan, and King Yukul K’awiiil is referenced on an unprovenanced ceramic vessel, where he is associated with the year 780. In addition, a certain K’inich Bahlam is named as the king of Hix Witz on a hieroglyphic stairway in Yaxchilan. The same inscription records that he imposed order during Yaxchilan’s military

maneuvers against neighboring sites, which suggests that Zapote Bobal was allied with Yaxchilan at that time. Furthermore, there is significant evidence that the king Ahiin Ahk ? Witz illustrated on the Stuttgart stela was his son. His birth year of 788, which is recorded on the stela, dates to 10 years before the mention of K'inich Bahlam in Yaxchilan. It stands to reason that Ahiin Ahk ? Witz acceded to the throne of Hix Witz in the late eighth or early ninth century and thus may have been one of the last kings of the ruling dynasty of Hix Witz.

## Summary

Our 3D documentation and epigraphic and iconographic analysis of the Maya stela in the Linden Museum in Stuttgart finally confirms the monument's authenticity. The hieroglyphic text and imagery on this stela from the early ninth century reference the settlement of Hix Witz, now known as the archaeological site of Zapote Bobal. Based on epigraphic information, as well as stylistic correspondences with monuments from that site, we assume that the stela most likely originated from Zapote Bobal. This proposal could only be confirmed through excavations or recovery of fragments from the trimmed sides, which current understanding suggests were probably uncarved. However, it can be confirmed that the stela comes from a region between Zapote Bobal, La Joyanca, and El Pajalal.

If the stela originated from Zapote Bobal, it may have originally been erected in the so-called "stela graveyard." This area consists of two rows of stelae and associated altars that were oriented toward Structure 55 (Breuil-Martínez et al. 2005). A glance at existing documentation indicates that many known altars lack an associated stela. Locals reported to the archaeologists working there at the time that multiple stelae were looted from the site from approximately 1980 until the first excavations began (Breuil-Martínez et al. 2005:303–304). Based on the research history of this region (Graham 2010:293ff.) and the known provenance of the stela since 1978, we can preliminarily conclude that the monument was probably extracted from the site some time between 1965 and 1978.

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