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# The Contact Period of Central Peten, Guatemala in Color

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# The contact period of central Petén, Guatemala in color

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TIMOTHY W. PUGH and LESLIE G. CECIL

When Bernal Díaz del Castillo passed by Nojpetén with Hernán Cortés in 1525, he remarked upon the Itza capital's brilliant whiteness, even from a great distance (Jones 1998:69). However, had he stood in the central plaza he would have discerned that the sun's reflection eclipsed artifacts and architecture of a variety of colors. The archaeological record is frequently similarly whitewashed by our focus upon form, weight, and distribution. Nevertheless, color helped imbue the contact-period (A.D. 1525–1697) world of the Maya of the Petén lakes region of Guatemala with significance. This paper investigates the colors of ritual paraphernalia encountered in contact-period ritual contexts in the Kowoj region of Petén with special focus on architecture, ceramics, and beads. These artifacts indicate the significance of particular colors and possibly the avoidance of the color yellow.

Petén enjoyed an extended period of political independence from the Spaniards after they arrived on the continent. This contact period extended from 1525, when Cortés passed through the area, to 1697, when a Spanish army attacked and took Nojpetén, the capital of a social group called the Itza. In the seventeenth century, the Itza struggled with another group called the Kowoj for control of the Petén lakes region of Guatemala (fig. 1). The Itza were more powerful, but the Kowoj allied themselves with an Itza faction in an attempt to overthrow the ruling Itza elite in the late seventeenth century (*ibid.*:7–19, 197).

Many cultures worldwide associate specific colors with particular cardinal directions, with those of the Americas and Asia tending toward quadripartite or quincunx schemes (DeBoer 2005:69). Many traditions in Mesoamerica embraced a quincunx model. The most common Maya spatialized color scheme places blue/

green in the center, red to the east, white to the north, black to the west, and yellow to the south (Houston et al. 2009:table 2.1; Tokovinine, this volume). Whereas their use of color may have had less variation than many indigenous linguistic groups in Mesoamerica, modern Maya communities actually vary slightly by dialect in their color/directional schema (DeBoer 2005:table 4), and earlier Maya societies may have been characterized by equal or greater variation in regard to color and direction. Furthermore, the Classic Maya described the world with greater complexity than the five basic colors (Houston et al. 2009:21–25). We do not have historical records that specifically document how the Kowoj associated colors with directions. However, the Northern Lacandon, who are linguistically closest and had historical relations with the contact-period occupants of the Petén lakes region (Hofling 2009:fig. 4.1; Pugh 2009b:384), follow the prevalent model (DeBoer 2005:table 4). This model is also present in the colonial-period manuscript from Yucatán, Chilam Balam of Chumayel (Roys 1933:51–52). Given that it is the most likely schema for the Itza and Kowoj, the green (center), red (east), white (north), black (west), yellow (south) model will underlie the interpretations of the present study.

Directions and colors are also linked with other phenomena such as time. The four divisions of space are tied to the daily path of the sun (Carlsen 2009:303–307; Coggins 1980:728). East was associated with sunrise, north with noon, west with sunset, and south with midnight. North was also associated with the rainy season and growing plants, while the south corresponded with the dry season and harvest (Gossen and Leventhal 1993:fig. 2). The path of the sun was also related to the calendar year (Carlson 2009:304–306). Wayab (New Year) rites in Yucatán, described by contact- and colonial-period Spaniards, indicate that each year had patron deities, a color, and a direction, with the latter two corresponding with the typical “Maya” model mentioned earlier (Coe 1965:table 1). Although green is not prominent in Wayab rites, the color and its central position are associated with creation, origins, newness, first-ness, wetness, and breath/wind (Houston et al. 2006:40; Taube 2005:47). Wayab rites also involved the renewing or changing of political positions; hence, political relationships too were colored and directional (Coe 1965:102–109).

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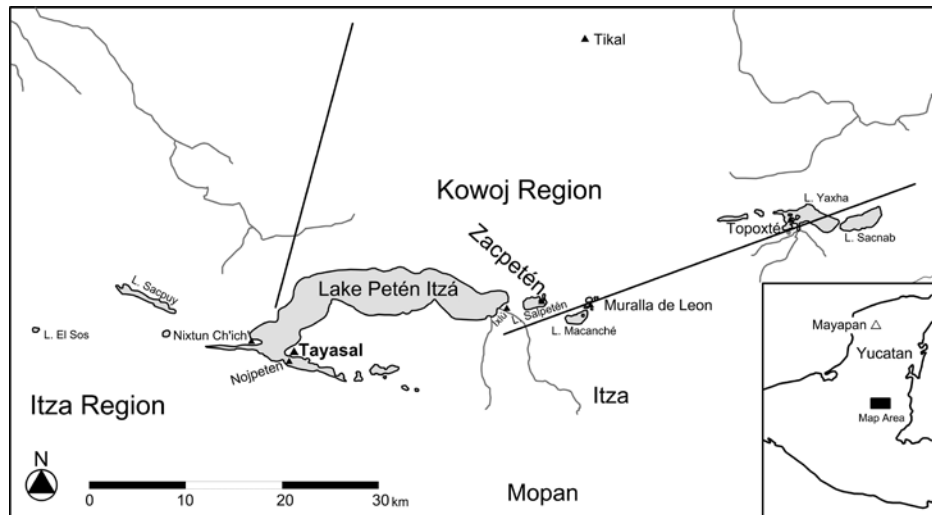


Figure 1. The Petén lakes region, Guatemala at contact. Drawing: Pugh (redrawn from Pugh 2009a:fig. 2).

Itza political geography was divided into a quincunx with a central capital and four provinces ruled by paired *batabob*, lesser rulers (ibid.:108; Jones 1998:92–93). We do not know if the Petén provinces were color-coded or if the Kowoj used similar organization; however, it is very possible as the Chilam Balam of Chumayel suggests some sort of quadripartition at Mayapán (Coe 1965:108; Edmonson 1986:81; Roys 1962:79), and it appears to have been an idealized way to organize politics in much of the Maya world (Marcus 1992:153–189). Nevertheless, we really know very little about the Kowoj. Our knowledge of them is primarily derived from archaeological research at the sites of Topoxté, Muralla de León, and Zacpetén. Zacpetén is the only one of the three sites with clear evidence of occupation during the contact period (Pugh 2001; 2009a), though Tipu in western Belize—which had both a contact-period settlement and a colonial mission—shares architectural and ceramic traits with the Kowoj (Cecil 2009a; Graham 2011:189–238; Jones 1989).

Zacpetén rests on a peninsula on Lake Salpetén (fig. 2). The site contains extensive traces of occupations from the Middle Preclassic, Late to Terminal Classic, and Late Postclassic through contact periods (Pugh and Rice 2009a). The Kowoj may have occupied Zacpetén until 1704 (Pugh 2009a:382), though it is also possible that the Itza drove the Kowoj from the site as part of their expansion in the early to mid-seventeenth century, and the site was likely abandoned when Nojpetén was taken by the Spanish in 1697 (Jones 2009:62). Indeed, many of the buildings of Zacpetén, from ceremonial buildings

to small residences, include large quantities of Pompeii-esque de facto refuse suggesting rapid abandonment. The dense Late Postclassic to contact-period settlement of Zacpetén is focused on two ceremonial groups, Group A and Group C. Both of these groups contained colonial artifacts in ceremonial deposits (Pugh 2009a).

### The colors of architecture

Although they spoke similar dialects of Yucatec (Hofling 2009:fig. 4.1), the Kowoj and Itza were different sociopolitical groups and used various methods to distinguish themselves. The Kowoj claimed ancestry from Mayapán, while the Itza claimed to have come from Chich'en Itzá (Jones 1998:11). Similarly, the Kowoj constructed Mayapán-derived temple assemblages, and both Group A and Group C of Zacpetén (fig. 2) contain such groups (Pugh 2003a). The Petén variety of the temple assemblage (fig. 3) has a temple on the east side of the plaza with an oratorio—essentially a smaller temple—to the north. In front and slightly off center of the transverse axis of the temple stands a statue shrine—simply a low masonry rectangular platform—with a smaller rectangular masonry altar immediately to the west. At a right angle to the temple and oratorio stands an open hall, which was a council house (Carmack 1981:192). Facing into the hall is a raised shrine. Such shrines varied in their use, but many were ancestor shrines (Pugh 2003b:945), places where important community members were buried, and were remembered and venerated as part of communal rituals.

The buildings in the assemblages surrounded a plaza with a plaster surface. The masonry walls and floors of the buildings were also plastered. On a sunny day, Zacpetén would have appeared bright white from afar, similar to Nojpetén. Nevertheless, standing within the settlement, one would have observed the varied colors of ceramics, textiles, feathers, flora, and body paint—the Kowoj painted their faces black for certain events (Jones 1998:205). In addition to these colors, one would note paint on many of the buildings. Unfortunately, stucco facades are rarely preserved, and paint traces on the stucco are even rarer. However, we encountered sufficient evidence of painted stucco to discern that the buildings were not totally white. Most of the archaeological evidence includes random fragments of painted stucco, but four buildings—Structure 764, the temple in Group C; Structure 767, the open hall in Group C; Structure 721, a domestic temple; and Structure 719, an elite residence—were clearly painted or color-washed.

Structure 764 is a temple resting upon a platform on the east side of Group C (fig. 3). The superstructure includes five columns, a medial altar (Feature 764-a), and a low interior altar (Feature 764-b). Concentrated inside the building to the east of the interior altar were a number of red-slipped ceramic sherds composing two quincunx chalices and a drum and the sherds of a flute or whistle. To the west of the interior altar were fourteen deity-image censers and fourteen composite censers (Pugh and Rice 2009b:158). Splotches of black wash to the east of the columns indicate that the floor inside the superstructure was painted black. The plaster floor outside or to the west of the columns was painted with linear red-segmented bands filled with red and black designs (fig. 4). The bands were only preserved adjacent to the north and south columns, likely because of minimal foot traffic in those areas. They were also protected by substantial censer sherd concentrations.

The primary painted band(s) lay thirty centimeters west of and parallel to the columns, and additional



**C Major Groups**  
Contour Interval: 4 m

Figure 2. Zacpetén, Petén, Guatemala. Drawing: Pugh (redrawn from Pugh 2009a:fig. 3).

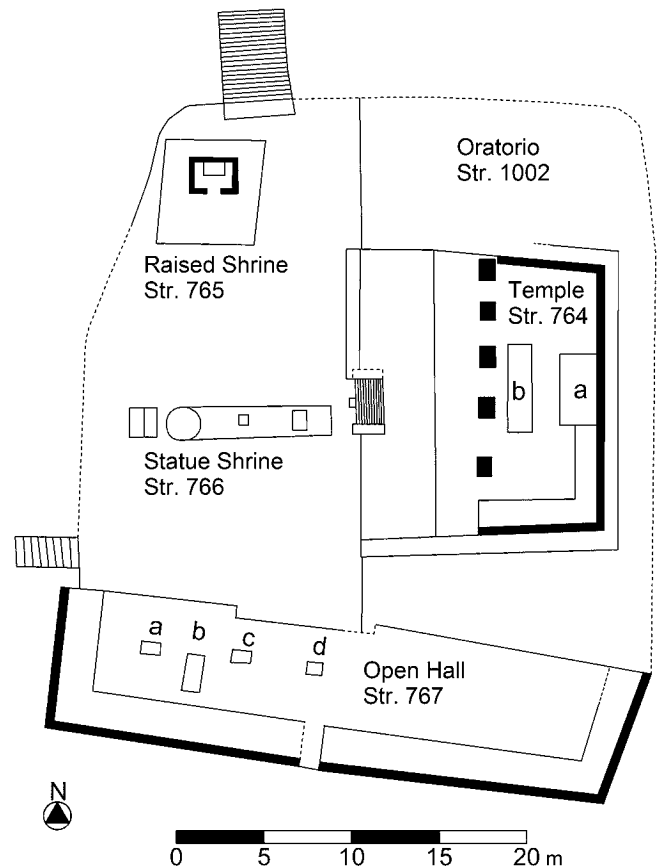


Figure 3. Ceremonial area, Group C, Zacpetén. Drawing: Pugh.

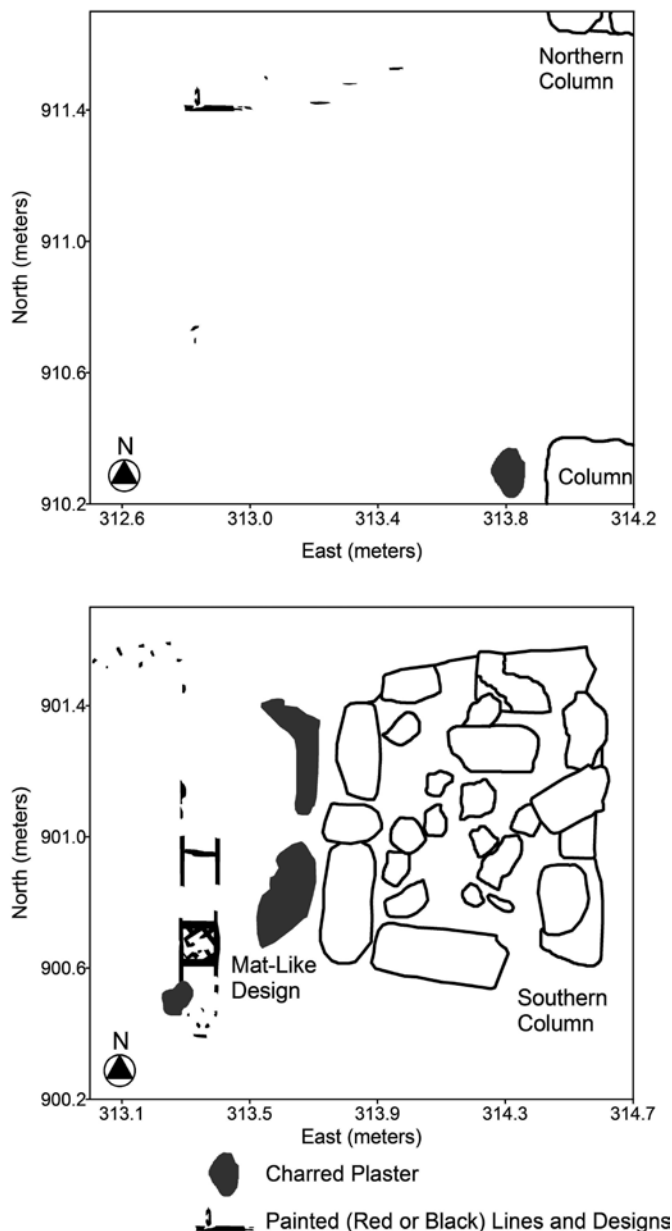


Figure 4. Lines and designs painted on the plaster floor, Structure 764, Zacpetén. Drawing: Pugh.

bands extended perpendicularly south of this band. These may have been blocks of glyphs or a patolli board. The latter seems most likely because the ladder-like patterns lie perpendicular to one another. Patolli boards were both games and divination tools, and were incised on the floors of some buildings at Tikal and Calakmul and an altar at Seibal (Becker 1999:58; Folan et al. 1995:319; Smith 1977:349). Mat motifs marked “places”

in the painting on the floor of Structure 764, similar to “places” on game boards at Maintzunun, Belize (see Graham 1985:fig. 6). There may have been several patolli boards, with at least one adjacent to the northern and southern columns. The segmented mat motif is also similar to designs on Petén ceramics linked to rulership (Rice 1989:311–312) and analogous to motifs painted on buildings at Tulum (Lothrop 1924:pl. 7). The plaster surface had numerous burned spots, even on the painted designs, resulting from the burning of offerings directly upon the floor.

Structure 767, the open hall in Group C (fig. 3), is an elongated structure with a C-shaped bench pierced by a medial niche. Fragments of red paint in the medial niche indicated that it, if not the entire building, had been red-washed. Charred marks in and around the niche suggest the burning of offerings upon the surface. In the western half of the hall stand four low rectangular masonry features. The second masonry feature from the left (Feature 767-b) differs from the others as it is larger and has a different orientation. Furthermore, it was built directly upon the plaster floor, while the others were constructed before the laying of this surface. Hence, Feature 767-b was placed later than the others. The entire surface beneath the masonry feature was painted reddish brown. It is likely that the entire building was once painted red and the masonry feature built upon the floor preserved the pigment.

Group 719 was an elite residential group between the two ceremonial groups (fig. 5). A cow’s mandible found in a shrine (Feature 719-a) and a vessel containing maize kernels dated with AMS (Beta-107791) indicating a conventional age of  $200 \pm 40$  B.P., calibrated to A.D. 1640–1700, 1720–1820, 1830–1880, and 1910–1960 (two-sigma), reveal that the building was occupied after contact with the Spaniards (Pugh and Rice 2009a:table 5.2). The residential group includes a large residence (Structure 719), temple (Structure 721), and a statue shrine (Structure 720). The group mimics the pattern of the temple assemblages, with the residence in the position of the open hall (Pugh 2002; Pugh et al. 2009). The twenty-four-meter width of the residence is also typical of open halls in Petén. However, the building differs from the halls, as it includes a backroom and L-shaped bench (Feature 719-c) typical of tandem residences in Petén. Like many buildings at Zacpetén, Structure 719 was rapidly abandoned, with thousands of artifacts including a vessel full of maize left as de facto refuse (ibid.).

The floors and benches of front rooms of tandem residences are coated with plaster, whereas the back rooms had earthen floors. In front of the bench

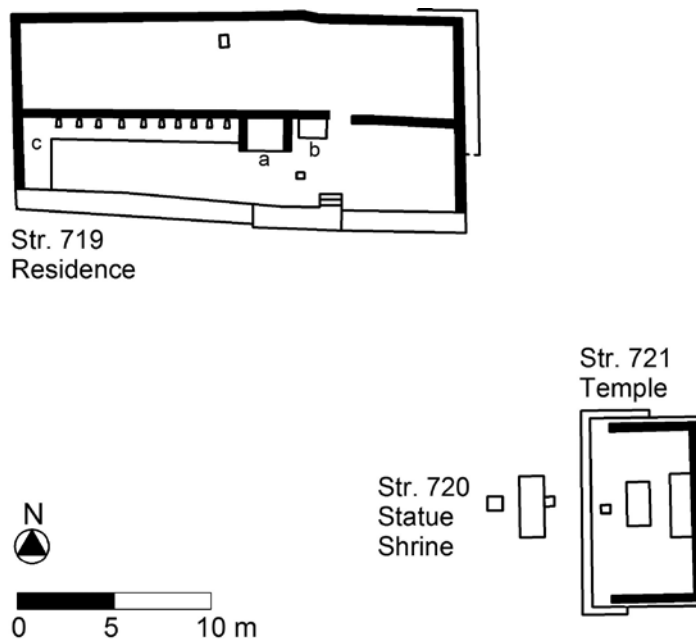


Figure 5. Group 719, Zacpetén. Drawing: Pugh.

in Structure 719 lay hundreds of stucco fragments decorated with bright red curvilinear designs (fig. 6). Splotches of red paint on the floor in front of the bench indicate that the painting occurred just before the building's abandonment. The painted designs on the bench had been intentionally destroyed as well, signaling the ritualized desecration of the building (Pugh et al. 2009:213–216). Near the door leading to the back room stood an altar (Feature 719-b). A large piece of stucco painted with red and black on white rested upon and once likely composed part of the altar. The designs on the stucco were dots and lines and the preserved fragment had been whitewashed and repainted several times. We do not know what the object represents, as it is a fragment of a larger composition that was shattered.

The back room of the residence was a domestic production area (Pugh 2009c:175). Corresponding to the recently painted bench, we encountered a paint production area in the back room including “two limestone mortars with finely shaped hemispherical bowls”; four “smooth crystal cobble pestles—two of which had red stains in their fracture lines”; three pieces of gypsum, one of which had been fired; and three “deep-red stones” whose chemical characteristics match those of red slips of Postclassic ceramics (Pugh et al. 2009:200). This deposit is as close to a proverbial “smoking gun” as the archaeological record allows.

Household temples were uncommon at Zacpetén, with only two known, both in elite domestic groups. The temple in Group 719, Structure 721, had a layout very similar to Structure 764—the civic-ceremonial



Figure 6. Red painted stucco fragment, Structure 719, Zacpetén. Photo: Pugh.

temple in Group C—though the former lacked masonry columns. It also had a very similar artifact distribution (Pugh 2009b:379–380). Structure 721 had been burned down, likely along with the destruction of the painted decoration in Structure 719, scorching the floor and many of the ceramics. An apron step that wrapped around the front of the building's platform was painted red. In addition, the interior of the building had splotches of red paint indicating that it was also painted red, though the burning of the superstructure obscures how much of the floor was painted.

In sum, color in contact-period architecture was more complex than implied by the “cities of white” described by Bernal Díaz. Painted elements remained on four of the excavated buildings at Zacpetén and likely once decorated many more. The decoration included red and black, though a whitewash was also used. Similar to their ceramics, described below, plaster surfaces of some Kowoj constructions were painted with red curvilinear designs, though designs incorporating both black and red were also present. The destruction of painted elements as part of at least one structure's desecration/termination indicates that painting and color played critical roles in the buildings' identities.

### Decorative ceramics

The Kowoj and Itza used different ceramic pastes, but of note to the current discussion is that they also registered their differences in the color of their ceramic decorations. Tripod plates (figs. 7–8) made by both groups were used for feasting and holding offerings, and were similarly used outside of Petén. Both Itza and Kowoj tripod dishes are red-slipped on the exterior and many have decorative panels on the interior. Although there is a similar design mode, the exterior surfaces of the Kowoj tripod vessels tended to be a darker red during the latter portion of the Late Postclassic period (Cecil 2001:156). Leslie Cecil (2009b) investigated the color schemes of decorative ceramics and found that the Kowoj and Itza signified their differences through color. Kowoj decorative schemes on tripod interior surfaces and other ceremonial vessels (exteriors of narrow-neck jars and tecomates) generally include curvilinear red decoration on light-colored pastes (white, pink, and very pale brown, 7.5YR 8-7/3, 10YR 8-7/1-3) or red-and-black decoration, whereas the Itza tended toward “black-line decoration” (fig. 8) (ibid.:233). The two groups used these colors to compose slightly different motifs. Although both used black lines, each obtained their pigments from different sources (ibid.:233). The black pigments used by

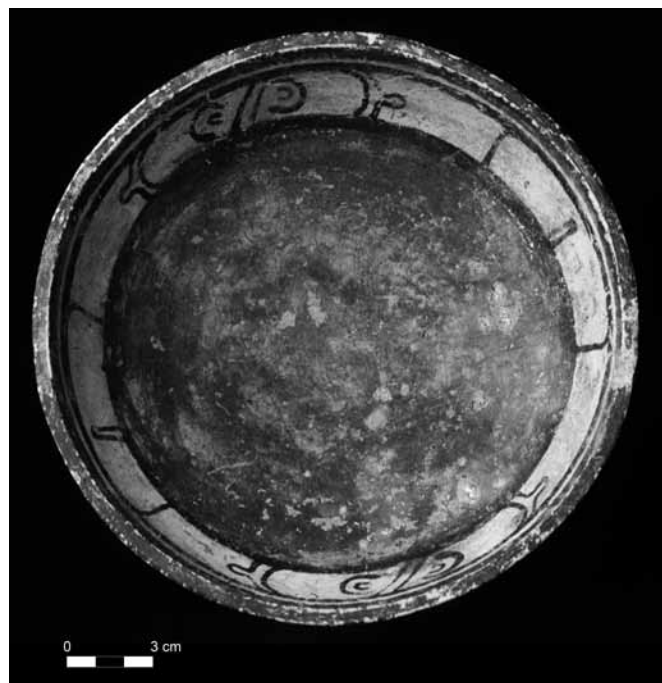


Figure 7. Tripod plate (Chompoxté red-on-paste: Akalché variety), Structure 766, Zacpetén. Photo: Don Rice.

the Kowoj have high frequencies of manganese whereas those of the Itza had higher frequencies of iron (Cecil and Neff 2006:1486). This suggests that the Kowoj were using manganese oxides for their black pigments while the Itza were using iron oxides for theirs. Furthermore, the color schemes may correlate with their places of origin: Later Mayapán ceramics tend to have red or red-and-black designs (on both dark and light red-slipped exteriors), while black painted motifs were common at Chich'en Itza, corresponding to the Kowoj and Itza respectively (Cecil 2001:538–539).

The pigments used for the various motifs produced by the Itza and Kowoj also demonstrated differences in chemical composition. Red pigments used for red-line decorated pottery manufactured in the Kowoj region (presumably at Zacpetén or Topoxté Island, or both) are chemically different from the red pigment used for red-and-black decorated pottery, a Kowoj-specific decorative style (Cecil and Neff 2006). The pigment used for pottery decorated with only red-line motifs is enriched with iron and chromium whereas the red pigment for the red-and-black decoration is enriched with cerium (ibid.:figs. 4, 9–10). Although the mineral used to produce the red pigments has yet to be determined with scientific certainty, they are most likely from an iron-rich source

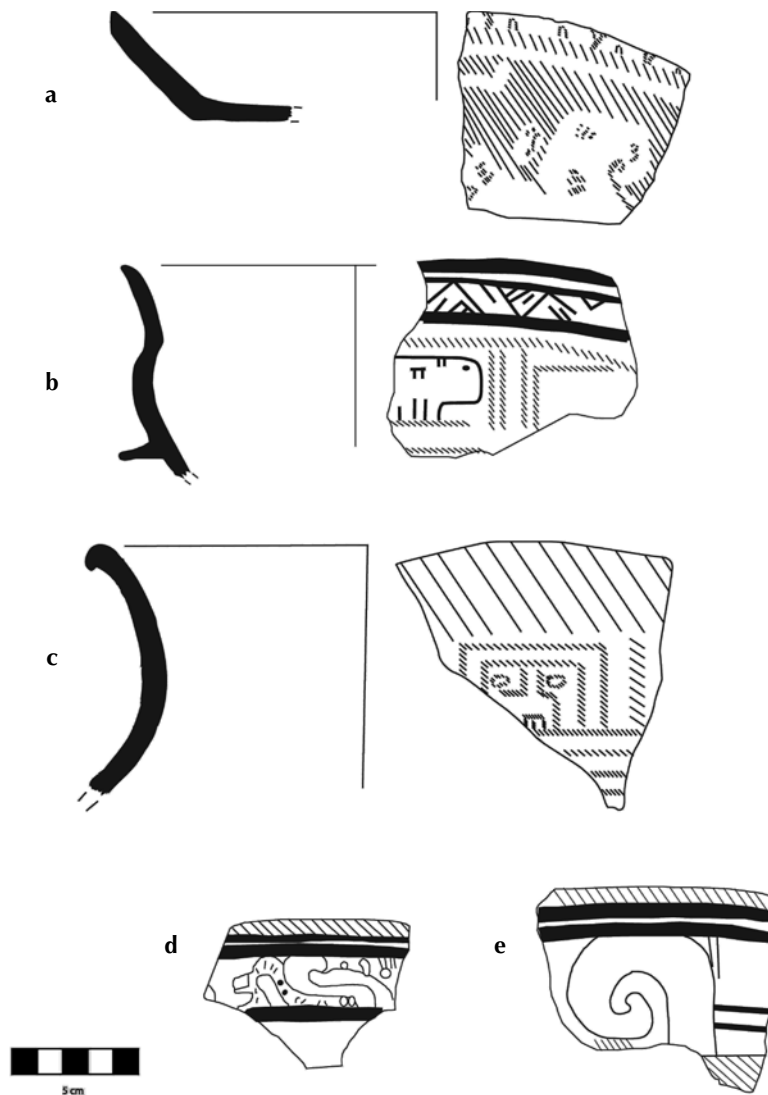


Figure 8. Kowoj and Itza decorative programs (all excavated from Zacpetén). Drawings: Cecil. (a) Chompoxté red-on-paste: Chompoxté-variety tripod plate with curvilinear motif; (b) Sacá polychrome collared bowl excavated from Zacpetén; (c) Chompoxté red-on-paste: Kuyakos-variety narrow neck jar with Ahaw glyph; (d) Ixpop polychrome collared bowl with reptilian motif excavated from Zacpetén; and (e) Ixpop polychrome tripod plate with hook motif.

such as hematite. Both of these decorative programs occur on lighter-colored pastes visible on the interior decorative panel (as opposed to darker gray): The pottery has either cream paste (manufactured at Topoxté Island) or a well-fired light-colored gray paste (most likely manufactured at Zacpetén). The decorative program of the Kowoj pottery reflects the patterns seen on the stucco of the architecture discussed previously. Because no red-

line decorated pottery was excavated in the Itza territory, no conclusions can be drawn to distinguish the Itza from the Kowoj in this respect.

When one examines the black pigments used for decoration by the Itza and the Kowoj, however, differences between them do emerge. Black pigments used in conjunction with red decoration (Kowoj) are chemically distinct from those used solely as black-



line decoration (ibid. 2006). Additionally, black pigments used to paint motifs that are considered Kowoj indicators—such as calendrical glyphs, the curvilinear motifs, and the God M eye—are chemically different from the hook and reptilian motifs that may be indicative of Itza ethnicity (fig. 8) (Rice and Cecil 2009).

At least two of the red-line decorated, cream-colored paste tripod vessels excavated from Topoxté Island (within the Kowoj territory) also had Maya blue pigment on their interior (Cecil personal observation; Bullard 1970). While the blue pigment in the vessels is currently being analyzed, Maya blue was being made in Petén by the Kowoj (Cecil 2010). Similar to the Maya in Yucatán, they produced the pigment with palygorskite clay and indigo (ibid.:1006). Not only were the Kowoj manufacturing Maya blue, but they were doing it from the same clays that they used to manufacture their cream paste pottery. Previous research identified Maya blue source clays in Yucatán (Arnold 2005:56). The analysis of the Petén ceramics demonstrates a transfer of technological and ideological knowledge rather than the trade of pigments manufactured in north central Yucatán. Furthermore, in central Petén, the majority of Maya blue is concentrated in the Kowoj area, reinforcing the Kowoj-specific use of white, red, black, and blue.

Besides decorative plates, the Kowoj utilized various ceramic objects in their rituals. Offering paraphernalia such as quincunx chalices, drums, and other vessels recovered from ceremonial areas tended to have red slips (Rice 2009), though many objects such as flutes and some vessels were unslipped and others had a white wash. Red-slipped vessels also included details painted with other colors such as white, Maya blue, and black. The Kowoj also buried caches beneath the floors of their ceremonial buildings to activate/dedicate the spaces, thereby imbuing them with an “innate soul” (Vogt 1998:22–23). Cache vessels were painted red, white, or black, or left undecorated. As discussed below, many contained colored objects.

The religious life of the Kowoj, Itza, and most other contact-period Maya groups included the use of numerous effigy censers, which in Petén generally represented deities (Rice 2009). The Maya burned resin from the copal tree in the vessels, likely as offerings to the represented deity, though the burning of incense also helped to frame the ritual event. The censers included ceramic vessels, often hourglass or chalice-shaped, with the figure of a deity mounted upon the front. The figures representing the deities were unslipped, but the attached vessels were occasionally slipped and when they were, they were red. The Kowoj painted some of the unslipped

deity figures with various colors including red, black, white, and Maya blue. Kowoj deity effigy censers are largely restricted to temples (Pugh and Rice 2009b:147–150). The Maya ritually “killed” effigy censers and other objects after a certain cycle of use by smashing them and scattering their pieces in special refuse areas, such as behind ceremonial buildings.

In sum, when ritual ceramics were colored, they tended to be red. Details were composed in red, Maya blue, white, and black. However, many ceramic objects—particularly censers—tended to have little or no painted decoration. Kowoj use of color, particularly red and black decoration and the use of Maya blue, differentiated them from the Itza. The color yellow is not preserved on contact-period Kowoj ceramics.

### Colored beads

The Late Postclassic to contact-period contexts of stone and shell beads indicate that they played critical roles in Maya religious practices. Of particular interest for this paper are beads encountered in caches in ceremonial spaces. Caches are interesting locations for colored objects because the objects are not “seen” after having been hidden away.

In this paper, “beads” will refer to materials that were worked into spherical or cylindrical shapes and pierced to be suspended on a string. We have not included in the bead category pendants such as shells and teeth that were unworked other than their piercing for suspension. Beads at Zacpetén were composed of a variety of materials including bone, ceramic, shell, coral, and stone. Those of bone and ceramic did not occur in caches or in significant amounts in other ritual contexts. Shell beads primarily include marine shell, particularly *spondylus* and *strombus* shell, and ranged in color from white to red. We also encountered a couple of coral beads that were also red, though it is not known whether the color was natural or applied. Green beads were composed of greenstone and black beads were composed of serpentine. The only fuzzy zone between colors occurred with the pink *spondylus* shell beads, which were classified as red for the current analysis.

Most beads encountered at Zacpetén were composed of greenstone (n=26). The next largest category was red (n=18), followed by white (n=6), and black beads (n=5). None were colored yellow. Beads of various colors frequently occurred as sets in caches. Such caches include a lidded globular vessel with no neck and generally with red slip. The vessels have loop handles on the sides and on the lid. Cache contents tended to be

lumped together in the vessels as if they had been strung together or imbedded in a perishable material.

The contents of the central cache of the temple of Group A, Structure 602, were set on fire prior to sealing (fig. 9). Many of the beads and other objects in this cache were slightly burned. In addition to the fire, the vessel contained an unknown acidic substance that eroded the base of the vessel directly below the beads. The eroded area was surrounded by an unknown residue. The lid was also burned on the inside, indicating

that it had been placed upon the vessel while the contents still burned. The vessel was then likely bound with a rope through its loop handles and placed in the earth directly in front of the central altar of a temple. In each central temple cache, a portion of an earlier vessel was reinterred with the extant cache vessel—perhaps to signify continuity of material and practice in the offering. The caching event in the temple of Group A involved the use of a small shot-glass-shaped vessel—a common Middle Postclassic through contact-period ritual object

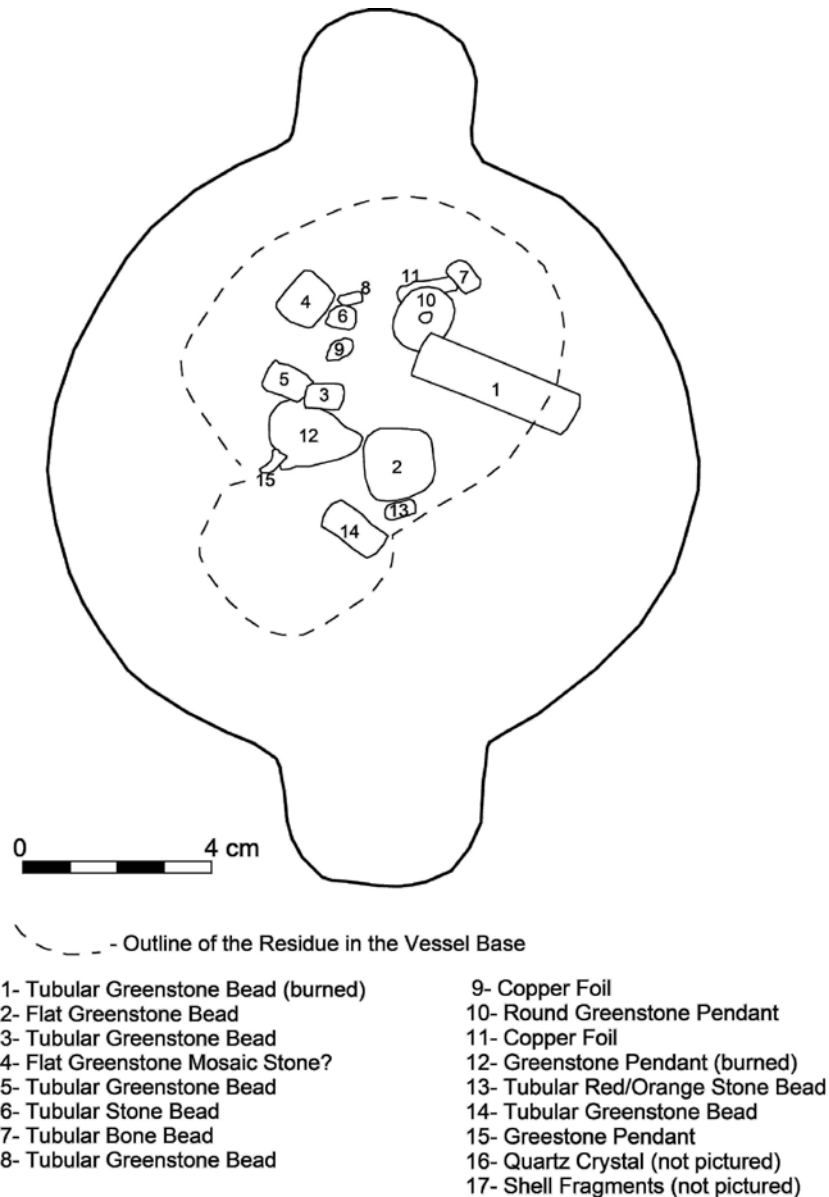


Figure 9. Vessel contents, Cache 4, Structure 602, Zacpetén. Drawing: Pugh.

(Landa 1941 [1566]:147; Chase 1985:109–121). These objects may have been used for ceremonial drinking. The “cooking” of the colored beads within the cache and burying of the vessels may have helped activate the temples of the two ceremonial groups at Zacpetén. On a side note, the burning also demonstrates that some damage generally attributed to ritual terminations may actually have occurred during the process of activation. Fire is transformative and can both create and destroy.

In addition to marine shell, coral, greenstone, and serpentine beads, the caches contained other marine shells, stingray spines, and greenstone objects as well as cut rock crystal and copper foil. One wonders what color the Maya would have categorized rock crystal. Copper is almost as problematic as rock crystal because the color of copper changes as it oxidizes. The material is currently green, but prior to its oxidation, it likely had a reddish or yellow color. The redness of copper made it an appropriate material for the composition of ritual objects in some parts of the Americas (Turgeon 1997:9). Copper can also oxidize to black. Hence, part of the symbolic significance of copper could have been based on its color transformation, perhaps representing liminal states, movements through space, or primordial indistinction, all of which appear to have been central to many ritual performances.

The assorted objects in the cache vessels at Zacpetén are composed of various materials and include all colors except yellow, with a preference for green and red. There was little uniformity in shape except that most were beads or pendants. Nevertheless, the objects in the various cache vessels share two common characteristics. First, they were all cached to dedicate a particular ceremonial space. Second, none of them were composed of materials local to Zacpetén. Classic-period caches frequently contain marine artifacts, and the Maya may have connected them with the cosmic sea that surrounds the earth (Guderjan 2007:26). This pattern appears to hold true at contact-period Zacpetén: With the exception of human bone, most cache objects originated in the ocean. Marc Zender (2010:84) has argued that objects originating from the ocean were also associated with the east, rain, wind, and the “birthplace of the sun.” The non-marine objects—again, other than human bone—were also all imports from outside of Petén.

Cache contents may have represented the shape of the universe (Mathews and Garber 2004). The various colored objects within the caches at Zacpetén may have symbolized the center and the various quadrants of the world with the exception of the south. If we quantify

the frequencies of bead colors within caches, we can observe that green is the most common, followed by red, then white, then black. (As already mentioned, there are no yellow beads.) The selection of bead colors from most to least frequent appears to reflect a movement from the center to the east to the north to the west. While this tendency is largely driven by the high frequencies of green and red beads, it may stand for solar movement, with an emphasis on rising heat and daytime.

### Conclusions

Red and black clearly dominate painted architecture and ceramics, while green and red color the majority of beads. Blue/green may have been rarer in painted works; the pigment is more difficult to create than red or black because Maya blue is composed of palygorskite clay (which is fairly rare) and indigo. Nevertheless, at Topoxté, a Kowoj site on Lake Yaxhá, Maya blue may have been slightly more common. A large altar turtle composed of carved limestone was painted blue and black (Hermes 2000:fig. 63). Paint on Zacpetén’s architecture included red and black, sometimes on a white wash. Ixlú, which could have been Kowoj or Itzá, included Postclassic architecture painted with deep red linear designs. We know little of the Itza region, though Structure T380 of Tayasal was painted with complex red, black, and orange designs. Unfortunately, similar to the mural in Structure 719 of Zacpetén, the mural of Tayasal was destroyed and its pieces placed on the side of the building. Nevertheless, it had been painted, whitewashed, and repainted several times (Chase 1983:868).

At least some color variation between the Itza and Kowoj was the result of differential access to pigments: The Kowoj seem to have had a monopoly on local Maya blue production. Nevertheless, the Itza do not appear to have appropriated these clay and mineral sources when they expanded into the Kowoj region in the seventeenth century; hence, by that time the resource disparity had become an important layer of social identity.

Greenstone and jade were the most popular bead material. Besides being attractive, the green beads had ideological associations with centrality, creation, firstness, breath/wind, and water (Houston et al. 2006:40; Taube 2005:47). This preference for blue/green appears to have continued into the colonial period. Thus far, two mission settlements have been excavated in the Petén lakes region, San Jeronimo and San Bernabé (both in the former Itza region). Six blue Punta Rassa glass pendants (A.D. 1650–1700+) were recovered at San Jeronimo,

located in the archaeological site of Nixtun-Ch'ich', and one small, dark-blue glass bead of an unknown type was recovered at San Bernabé, located at the site of Tayasal. No other glass bead colors have been encountered thus far, though a greater range of variation may emerge with more excavation—as was certainly the case at Tipu and Lamanai (Smith et al. 1994).

The contact and subsequent colonial situation extended color preferences from the Maya to the Europeans. While not the most common pigment, Maya blue was highly valued and desired by both the indigenes and the Europeans. Havana blue, used in Cuban mural paintings from 1750 to 1860, included palygorskite clay and indigo; it was in fact Maya blue exported from Yucatán (Tagle et al. 1990:158). Indigo dye production for European textiles was an important industry in Yucatán, initially involving hazardous forced labor (Patch 1993:29).

Yellow seems absent from Zacpetén's preserved ceremonial objects. Yellow pigment is generally composed of ochre to which the Maya of Petén would have had access. Yellow was certainly present in the artwork of Mayapán (Milbrath et al. 2010:2), which the Kowoj claimed as their homeland. It was also present in the ceramics of Classic-period Petén. Hence, there seems to have been no reason for yellow's absence other than preference; it appears to have become undesirable at Zacpetén sometime in the Late Postclassic period.

If one examines the complete range of caches at contact-period Zacpetén, two substances tend to occur in these alone. One is human bone outside of burials. While it is often difficult to separate burials from caches, some caches contain parts of human bodies—particularly mandibles and skulls and occasionally a bundle of long bones—that appear to have been placed in the earth for reasons other than a final funerary rite. At least some of the bones were hidden by flesh when buried (Pugh 2001:279–293); hence, one cannot speculate about their perceived color. The second substance cached alone at Zacpetén was gold. Gold was only found in Group A and included two pieces of gold foil cached along the primary axis extending from the temple. Among the Yucatec, gold was known as *ta'-k'in* or solar excrement. Gold was also considered a solar byproduct in central Mexico, deposited as the sun moved through the Underworld at night (Klein 1993:25). In addition, in central Mexico the color yellow was generally reserved to represent gold (Hosler 1995:105–106). If gold was associated with yellow at Zacpetén, then it is likely the only surviving representation of that color.

Yellow was very restricted in representations at Zacpetén, and when it did occur, it was separated from other colors. Such practices are common when one substance is dangerous to others. For example, among the northern Lacandon Maya, the censer representing the deity of the Underworld was separated, as it was believed that contact with it would kill the censers of other gods. A similar pattern may have been at work at Zacpetén. Yellow is tied to the south, a direction connected with the Underworld, the night (Coe 1965:table 1; Coggins 1988:table 2; Watanabe 1983:712), and death. The sun is also colored yellow (Girard 1995:337). As in central Mexico (Klein 1993:24), the color may have been associated with feces. However, gold is also related to the sun. Hence, the caches of gold along the west-to-east path toward the eastern temple may signify the course of the sun in the Underworld at night.

The archaeological record is only a partial record and it is possible that the temples of Zacpetén were decorated with yellow flowers (see McNeil, this volume) and corn pollen. Yet it is not just the beads that exclude yellow; we recovered no artifacts discernibly decorated with yellow pigment at the site. We did recover yellow minerals at the site in a pigment production area, but these minerals were destined for heat treatment that would have transformed them into red pigment.

Red pigment was the clear favorite for vessel slips, lines painted in vessels, and decoration on architecture. Red was also the runner-up for bead color. As noted, part of this preference was the result of the resource control and identity construction of the Kowoj. However, red is also associated with the sunrise, east, heat, blood, and life. In connection with its blood symbolism, the northern Lacandon marked building posts, ritual paraphernalia, and participants with red dots to prepare them for rituals (Davis 1978:170–177). They also offered red pigments in cups as offerings to the gods (McGee 2002:38). While one must avoid completely conflating red and east, all ceremonial groups in the Kowoj area were grounded to the east, meaning that all temples rested on the east side of the plaza and faced west. Although the temples faced west, the participants in the temples and plazas would have faced east toward the altar (Pugh 2009b:379). The Kowoj area of Petén is remarkably consistent in its patterning—the temple assemblages of Mayapán face a variety of directions. There is overlap between the prevalence of an eastern grounding for religious buildings and the popularity of red pigment.

Black was the second-most common pigment on architecture and ceramics. One would expect that with

its association with the west, sunset, darkness, death, and the Itza, black would have been as unpopular as yellow among the Kowoj. Nevertheless, it was incorporated into all architecture, ceramics, and bead caches as well as other artifacts, such as miniature serpentine axes. As noted, the Kowoj sometimes used black face-paint. The black:west:sunset:death complex was the complementary opposite of that of red:east:sunrise:life. From western death came eastern life—hence, it is fertile (Coggins 1988:69). Furthermore, black pigment produces images that contrast with and, therefore, stand out better than other colors.

The importance of white is difficult to summarize, as constructed surfaces were mostly white, though it served as a “canvas” for other colors. For some groups, north and south—associated with white and yellow, respectively—were not really “cardinal” directions, but were secondary to east and west, which were more specifically associated with the sun (Watanabe 1983:712). The dominance of red and black pigments corresponds with east-west cardinality. Nevertheless, as foreshadowed by Bernal Díaz’s vision of Nojpetén, white is associated with north, up, and the sun at noon (Watanabe 1983). Hard reflective surfaces were valued among the Maya as characteristic of divinity (Houston et al. 2006:175–176). Hence, while the color white (including its variations of cream) may have been a secondary color, its shininess was a highly desired trait and brought divinity into the plastered surfaces.

While the Maya were known to have incorporated color into their cosmology, their material culture is generally presented as unchromed. The Kowoj Maya of Petén, Guatemala, colored their ceramics, beads, and other objects as part of their multilayered social identities, and in order to tie their lives to the larger cosmos, particularly the movement of the sun, centrality, and water.

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