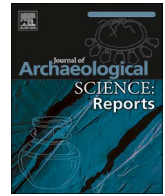




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An ancient Maya ritual cache at Pook's Hill, Belize: Technological and functional analyses of the obsidian blades

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ABSTRACT

When recovered from ritual contexts at ancient Maya sites, obsidian blades are frequently viewed as blood-letters used for auto-sacrifice. Most evidence supporting this interpretation is circumstantial and derives from iconographic and ethnohistoric sources. Such a deductive approach does not provide a means to determine whether individual blades were used to let blood. In contrast, microscopic use-wear analysis of lithic artifacts can be used to examine blades for evidence of their use, and—provided comparative experimental data are available—to determine if they were blood-letters. The technological and use-wear analyses of 48 obsidian blades recovered from a Late Classic (c. 550–650 CE) dedicatory cache at the site of Pook's Hill, Belize, serve as a test case to explore the relationship between obsidian blades and ancient Maya auto-sacrificial blood-letting. The results of the analyses indicate that some blades from the cache may have been used to let blood; however, not all obsidian blades appear to have been used in the same way. The obsidian blood-letters recovered from the cache were used in cutting, piercing, and piercing-twisting motions. Although some blades were used to let blood, the edge and surface wear on most of the used obsidian blades are consistent with other functions, including cutting meat/skin/fresh hide, cutting or sawing wood and dry hide, cutting or sawing other soft and hard materials, and scraping hard materials. Clearly, not all blades from this ritual deposit were blood-letters, which raises questions about the manner in which such a ritual deposit was formed and the nature of ritual activity associated with caching behavior at Classic period Maya sites.

1. Introduction

Obsidian was an important resource for the ancient Maya in many socio-economic, political, and ideological respects. This naturally occurring volcanic glass was mined from the highlands of Guatemala and Central Mexico and transported over hundreds of kilometers by land and sea to its final destinations. Sourcing data indicate that the obsidian sources primarily exploited by the Maya varied in different regions and over time (e.g., Braswell, 2003; Golitko et al., 2012; Nelson, 1985; Rice, 1984). Once acquired, obsidian was chipped or ground into a variety of tools, decorative objects, and ceremonial items. In particular, prismatic blades were forced from polyhedral cores through indirect percussion or pressure (Clark, 1988) to produce very sharp implements, well suited for piercing and cutting. Obsidian blades and blade fragments have been recovered by the thousands from domestic, non-domestic, and ceremonial contexts at ancient Maya sites and were used by commoners and elites alike for subsistence, crafting, warfare, and ritual activities of

many types (e.g., Aoyama, 1999, 2009, 2014; Lewenstein, 1987; Stemp, 2016a; Stemp and Awe, 2014; Stemp et al., 2013). In this paper, we focus on the procurement and ritual use of obsidian blades. Our sample of 46 blade fragments and two complete blades comes from Cache 4A-2 at Pook's Hill, Belize (Fig. 1). Results of microscopic use-wear analysis indicate that *some* of the blades from this cache possess use-wear traces consistent with blood-letting based on comparisons with experimental tools. Nonetheless, the majority of blades possess use-wear consistent with other domestic activities. This suggests a number of possibilities for the procurement of the blades, the activities undertaken with them, and the formation of the cache. Our results underscore that not all blades recovered from caches were necessarily used directly in ritual actions involving the formation of these types of deposits. Some blade segments may have been brought to the cache for inclusion as ritual objects from other locations where they were initially used.

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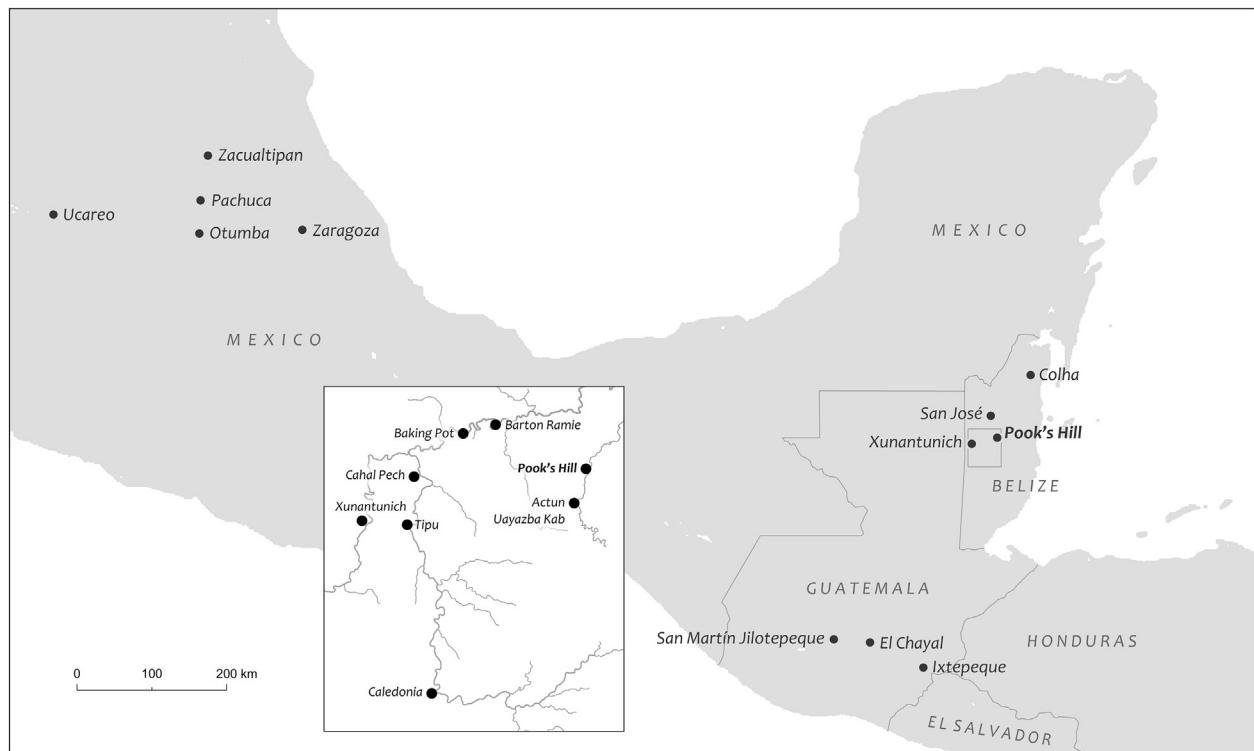


Fig. 1. Map of Mesoamerica showing the location of Pook's Hill and other localities mentioned in the text. The inset map shows the location of sites in western Belize (map by Christophe Helmke).

2. Blood sacrifice among the ancient Maya

Decades of research on iconography and epigraphy have helped to refine our understanding of the intangible world of the Classic Maya, their beliefs and world-view (Helmke, 2012; Houston and Taube, 2000; Houston et al., 2006; Stone and Zender, 2011; Schele and Miller, 1986). We now know that for the ancient Maya blood was the substance that contained 'godliness', the life-force that could be offered to the gods as sustenance (Houston and Stuart, 1996:292; Helmke, 2012:63–67). As a means of ingratiation and placating the divine, as well as marking important ritual events, the Maya offered blood by various means of sacrifice (Stone and Zender, 2011:75). The practice was even thought to have divine precedent; deities were believed to have offered blood in the distant mythic past (Fig. 2a). Blood-soaked paper strips were placed in offering bowls and set alight. Within the smoke, Vision Serpents appeared. From the maws of these serpentine entities, divinities and deified ancestors emerged with whom the officiant would commune (Schele and Miller, 1986:177–179; Stuart, 1988) (Fig. 2b). Detailed depictions of these rituals clearly show that the Maya employed a variety of implements in blood-letting rituals, including obsidian blades (Fig. 2c), sharpened bone awls or needles, stingray spines, shark teeth, and agave thorns embedded in ropes. These were used to cut or pierce the ears, lips, nostrils, tongue, arms, legs, or the penis (Joralemon, 1974; see Tozzer, 1941 for Spanish Colonial accounts). Both males and females were participants in blood-letting rituals (Schele and Miller, 1986:175–207), but males are most frequently depicted in artwork. Men drawing blood from their penises are depicted in several media, including modeled ceramic figurines, painted murals and cylindrical vases, and carved lintels (e.g., Chase, 1991; Gann, 1918; Joralemon, 1974; Schele and Miller, 1986; Stone, 1995; Stuart, 1984, 1988, 1996). Although it is clear that blood-letting was an integral part of ancient Maya ritual practice, this aspect of Maya culture garnered great attention in the 1970s and especially the 1980s. At that time, scholars looked for hieroglyphic expressions associated with depictions of blood-letting scenes (Joralemon, 1974; Stuart, 1984; Schele and Miller, 1986).

Such interpretations are now generally discounted and there is no substantive epigraphic evidence for ancient Maya blood-letting. Although this aspect of ritual practice now figures much less prominently in academic literature, many researchers still assume that obsidian blades found in ritual contexts were used to let blood (Stone and Zender, 2011:73, Fig. 1).

3. Obsidian blades as blood-letters

The assumption that obsidian blades were used as blood-letters is derived from iconographic, ethnohistoric, and contextual information—including the placement of blood-letters in the pelvic areas of skeletal remains found within tombs. Nonetheless, the Maya used blades for many purposes, and it is not easy to identify a particular obsidian blade as a blood-letting implement. Results of previous use-wear analyses demonstrate that obsidian blades were used by the ancient Maya for a wide variety of functions including food processing, other domestic activities, craft-production, warfare, and, at times, ritual practices (e.g., Aoyama, 1999, 2001, 2007, 2009; Lewenstein, 1987; Peterson, 2006; Stemp, 2016a; Stemp and Awe, 2014; Stemp et al., 2013). Both use-wear studies (Reents-Budet and MacLeod, 1997; Aoyama, 1999, 2001, 2009, 2014; Stemp, 2016b, 2016c; Stemp and Awe, 2014) and residue analysis have contributed to the study of ancient Maya blood-letting (Meissner and Rice 2015; Newman, 1993; Potter, 1994; Sievert, 1992; see Stemp, 2016c).

3.1. Microscopic use-wear analysis and obsidian blades

In the past, archaeologists relied on contextual and form-function interpretations to identify obsidian blades as blood-letters (e.g., Brady, 1989:324; MacLeod and Puleston, 1978:7; see Brady and Peterson, 2008:81; Sievert, 1992:34). Often the lack of edge damage on obsidian blades, their general form, and their recovery from what are deemed to be ritual contexts were used as the criteria for classification as a blood-letter or perforator (Coe, 1959:30; Kidder, 1947:15; Willey et al.,

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