



# The production and exchange of moulded-carved ceramics and the 'Maya Collapse'



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## ABSTRACT

This paper examines the production and exchange of a particular type of ceramic vase designated 'Ahk'utu' moulded-carved', by using thin-section petrography, INAA, and SEM-EDS. These vases were produced and circulated in the eastern Maya lowlands during a transitional period known as 'Terminal Classic', ca. A.D. 800–950. Significant changes, generally referred to as the Classic Maya Collapse, occurred in the socio-political order in the Maya lowlands at this time, although the pace and events leading to such changes remain poorly understood. By studying a selection of 62 Ahk'utu' moulded-carved vases from various sites across Belize, we seek to offer a new perspective on the nature of this important transitional period. Our findings reveal that two main ceramic traditions – one employing calcite and the other volcanic ash temper – are represented by the vases. These traditions guided the selection of raw materials, surface finish, and firing methods. Vases of the calcite tradition were mostly used at or around the sites where they were produced, whereas those of the volcanic ash tradition appear to have been circulated over a wider region. The co-existence of multiple production groups and distribution spheres of the Ahk'utu' vases, along with their style and decoration, is interpreted as indicating a proliferation of an ascending social segment and greater flexibility and fluidity in how the social hierarchy and political structure were maintained in the eastern Maya lowlands from the 9<sup>th</sup> century and onwards.

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## 1. Introduction

Ahk'utu' moulded-carved vases are a major component of the moulded-carved ceramic tradition dating to ca. A.D. 800–950 in the Maya lowlands (Helmke and Reents-Budet, 2008; see also Adams, 1973: Fig. 16; Aimers, 2004: 80; Rands, 1973: Fig. 28; Sabloff, 1973; Smith, 1958). During this period, referred to by some scholars as the 'Maya Collapse' or the 'Terminal Classic', the socio-political structure of the Maya lowlands witnessed drastic changes (e.g. Aimers, 2007a; Culbert, 1973; Demarest et al., 2004; Sabloff and Willey, 1967). Even though many aspects of this process remain unknown, it seems clear that the elite and hereditary nobility were deeply affected by the changes, as reflected in the

decline of Classic Maya kingship and its associated material manifestations (Demarest, 1997, 2006; Freidel, 1992; Santley et al., 1986; Willey, 1986). Among the significant changes in material manifestations were the gradual disappearance of polychrome ceramic tradition and the subsequent emergence of the moulded-carved tradition, including the Ahk'utu' vases. There is evidence that Ahk'utu' vases were produced and consumed by a newly affluent and ascending social stratum that was grappling to seize control in the ebbing of power of the royal households (Helmke, 2001; Reents-Budet and Bishop, 2015). Despite previous work that largely focused on the epigraphic and iconographic aspects of these vessels (Helmke and Reents-Budet, 2008), little is known with regards the production and exchange of the Ahk'utu' vases. Thus, the present investigation of the Ahk'utu' vases employed a combination of archaeometric methods to offer a new perspective on the nature and development of the transformations in Maya society from the 9<sup>th</sup> century onwards. The aims of the study were to: (1) examine the compositional variability of the Ahk'utu' assemblages within and between sites; (2) determine the potential provenances

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of the vases; (3) reconstruct the manufacturing processes; (4) characterise the craft organisation; and (5) delineate the exchange patterns.

## 2. Background

### 2.1. Characteristics of the Ahk'utu' vases

The designation of Ahk'utu' moulded-carved was established by Helmke and Reents-Budet (2008; see also Helmke et al., 1998). They proposed that the designation covers the vessels as a 'type' in the type-variety system of classification (Gifford, 1976). Nevertheless, the label cross-cuts paste groups and as such only partly fits into the systematics of the type-variety system (Aimers, 2007b). Nevertheless, we continue to use the designation as a useful identifier for an important and distinctive group of moulded-carved vases because the label is an *emic* one, recorded in the glyphic texts that accompany these vases.

The Ahk'utu' vases are recognisable for their barrel-shaped vessel form, supported by three hollow oven-shaped supports, each with a circular perforation and containing a ceramic pellet (Helmke and Reents-Budet, 2008: 38–41) (Fig. 1). The exterior surface of the vases is covered with orange-red slip, and decorated with two elaborate iconographic scenes, accompanied by glyphic captions; a main glyphic text adorns the rim above the scenes. As such these moulded-carved vases can be said to emulate the decorative themes of the Late Classic polychrome vases (Reents-Budet, 1998), but these two types of vessels vary in terms of production technique and mode of decoration. The main text includes the label *ahk'utu'*, lit. 'giving-implement', which indicates that the vases served as central objects in gift-giving observances, and were produced for this purpose (Helmke, 2001: 51–52; see also Graham et al., 1980: 165). The remaining glyphs indicate that the vases were produced for a member of the elite named Lady Olom, who bore some of the most exalted titles, but without any clear indication of a royal title or pedigree (Helmke and Reents-Budet, 2008: 41–43). Helmke (2001) proposed that the Ahk'utu' vases were initially produced for Lady Olom to help consolidate her status and build alliances via gifting at ritual observances such as feasting, with the widespread circulation of the vases eventually resulting in the

production of local copies. These copies continued to be produced and distributed via social processes that were similar in practice, and even though they continued to bear the name of Lady Olom these were distributed in different social networks.

### 2.2. Archaeological contexts

The Ahk'utu' vases have been found at more than two dozen sites across the eastern central Maya lowlands in what is now Belize and Guatemala. The vases included in this study were recovered from eight Belize sites: Altun Ha, Pook's Hill, Baking Pot, Marco Gonzalez, Cahal Pech, Mountain Cow, Zayden Creek, and the Caves Branch sites (Sapodilla Rockshelter and Actun Lubul Ha) (Fig. 2). The vase fragments are mostly found in contexts related to terminal occupational debris, terminal ritual debris, or middens of elite residential structures in these sites (Helmke, 2001: 21–29). It is interesting that, with the exception of Marco Gonzalez, all of the eight sites show evidence of decline, abandonment of use and/or gradual depopulation towards the end of the Classic period (Audet, 2007; Graham and Pendergast, 1989; Healy et al., 1998; Helmke, 2006a, 2006b; Morton, 2010; Pendergast, 1979; Wrobel and Shelton, 2011).

### 2.3. Geological settings

Most of the Belize landmass is underlain by limestones of different ages, with a general tendency of decreasing age from the southwest to the northeast (King et al., 1992; Wright et al., 1959). The limestones of the Cretaceous formations in the southwest are described as hard, with some limestones contributing to the development of the most striking karstic landscape of the country (King et al., 1992: 26; Wright et al., 1959: 24). On the other hand, the limestones of the Pleistocene-Holocene formations in the northeast are said to be deeply weathered, and display a marl-like characteristic, which is also known as *sascab* (Darch, 1981; Darch and Furley, 1983: 179). An exception to this vast low-lying limestone plain is the Maya Mountains, which occupy the southern part of the country. The geology of the area of the Maya Mountains is characterised by the presence of Paleozoic metasediments and metamorphosed volcanic rocks with granite intrusions (Bateson and Hall, 1977; Shipley and Graham, 1987).



**Fig. 1.** An Ahku'tu' moulded-carved vase: (a) the vessel profile and (b) a panel showing the iconographic design. Illustration by Christophe Helmke and photograph by Dorie Reents-Budet (after Ting and Helmke, 2013: Fig. 1).

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