Cup-and-Ring Marked Stones in Ancient Mesoamerica

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Abstract. This paper presents an overview of all documented examples of cup-and-ring marked stones from Mesoamerican archaeological sites in order to evaluate previous interpretations of the meanings of these enigmatic symbols. Comparisons of their site-specific contexts demonstrate that while the aquatic symbolism of these marks is perhaps their most common attribute, their local contexts varied tremendously and some of these motifs may have had calendrical or astronomical connotations.

Introduction

Cup-and-ring marks are anthropic features encountered at archaeological sites around the world that consist of two or more concentric circles set around a small cup-mark or hemispheric pit. These markings were purposefully engraved or pecked onto boulders and other stone surfaces such as rock outcrops, the walls of caves and rock shelters, megaliths, and other forms of monumental sculpture. Cup-and-ring marks can occur on vertical or horizontal surfaces and may appear either as single entities, in larger groups of two or more concentric circles, or as part of carved panels with other designs.

Cup-and-ring marks have generally been classified within the broad category of “petroglyphic rock art” and have been identified in many different regions. Concentrations of these markings have been documented in England (Jackson, 1992), Scotland (McCartney, 2004); Ireland (Johnston, 1989), as well as other parts of the Atlantic coast of western Europe (van Hoek, 1997). On the African continent, similar engravings have been documented in rock outcrops in Namibia (Coulson & Campbell, 2001, 108, Fig. 120). In Polynesia, cup-and-ring marks have been observed on Tubuai Island, Tahiti, and Easter Island (Lee, 1996, 165-7). Other examples are well known in western North America and northern Mexico (Mark & Newman, 1995; Ortiz de Zárate, 1976) and the Andean region of South America (Schobinger, 1997). By comparison, very few cup-and-ring marked stones have been found within the cultural and geographic confines of ancient Mesoamerica as defined by its historically-constituted social practices over the last three and a half millennia (Joyce, 2004).

This paper presents an overview of Mesoamerican sites that contain cup-and-ring marked stones from southern Mexico to the Pacific Coast of Guatemala, and evaluates current interpretations of these enigmatic markings. Because of the similarity of concentric circles across many cultures and over time, there has been a tendency among some researchers to assign a common cognitive basis for cup-and-ring marks attributable to the recurrence of elementary graphic forms (Steinbring et al. 1995, 55-7) or to relate them to generalized shamanic practices (Lewis-Williams, 2002, 151-3). While these assumptions may offer provocative hypotheses to test with the Mesoamerican data, without supporting ethnohistoric or ethnographic evidence, the significance of these geometric markings is best examined by contextualizing the marks in relation to monuments, landscape features and built environments observed at their respective sites.

Types of Cup-and-Ring Marked Stones and Their Distribution

Numerous locales with cup-and-ring marks have been investigated along the western frontier of ancient Mesoamerica. These include the so-called “dog stone” of Coamiles in Nayarit (Garcia & Payan, 1987, 38, Fig. 3)
as well as several petroglyphs located along the Zacapu river basin in Michoacán (Faugère, 2005, 440, Fig. 21) and in the Cueva del Capirito, situated in the Huarimío river region in the Tierra Caliente of Michoacán (Faugère & Darras, 2002, 31 & 34, Figs. 8 & 12). During its long history, this region functioned as a natural boundary between the state societies to the south and the hunting and gathering bands and intermediate agricultural societies occupying the arid northern zones of Mexico. However, given the complex cultural history of this area and the incomplete state of archaeological investigations in this region, it is difficult to assign the rock art found here to a particular cultural tradition.

By contrast, at least nine different sites with cup-and-ring marked stones have been found that can be associated with different periods of Mesoamerican culture history (Figure 1). Geographically, these locales range from the Central Highlands of Mexico in the north to the Pacific Coast of Guatemala in the south. The cup-and-ring marked stones encountered at these sites occur in several different contexts. Each type of stone is summarized in Table 1. Some of these stones are found on natural boulders or rock outcrops and may be best described as petroglyphs. These designs often occur by themselves. Occasionally, these petroglyphs are located on stones that have already been carved with other symbols or low-relief images. Finally, there are cases where cup-and-ring marks have been documented on worked stones which were embedded in larger architectural features either as facing stones on platform mounds or as pavement stones. To maintain clarity, I will present each of the sites in chronological order, beginning with the Late Archaic period locales.

Although the following cup-and-ring marked stones are found in the Tlapaneca region of eastern Guerrero – an area characterized by a substantial Late Postclassic period population (Oettinger, 1983, 65-7) – the archaeological contexts of these petroglyphs indicates that they date to the Late Archaic period (c. 2000-1800 BC) (Gutiérrez, 2008, 73-5). Two sites are known to have cup-and-ring marks in this region: the “piedra pinta”, near the town of Totomixtlahuaca has at least four concentric circle designs and another unnamed boulder near Ayotoxtla has 12 cup-and-ring marks (Oettinger, 1983, 68-9).

Both of these carved boulders display complex petroglyphic panels with numerous designs including geometric designs (squares and spirals), outlined crosses, serpentine designs, petaloid designs, punctate circles, cupules, and cup-and-ring marks (Gutiérrez, 2008, 74, Fig. 4). Similar painted designs, i.e. outlined crosses, have also been observed in the Cauadzidziqui rock shelter near Ocoapa, Guerrero. In this location, the designs are partially covered by Olmec-style rock paintings dating to the Early-Middle Preclassic period (c. 1200-900 BC) suggesting that they pre-date the Olmec art in the rock shelter (Gutiérrez & Pye, 2008) (Figure 2). It is therefore plausible that the petroglyphs from the Tlapaneca region, including the cup-and-ring marks, can also be chronologically positioned within the Late Archaic period.

Despite their antiquity, ethnographic work in the region has offered some clues about the possible meaning of these carved boulders. For example, modern Tlapanecos conceive of the cave near the carved boulder from Totomixtlahuaca as the home of rain gods. Every 25th of April (i.e., the Feast of San Marcos), groups of men travel to the cave under the guidance of a local shaman and offer small tokens – flowers, eggs, and chickens – to the rain gods in order receive enough water for a bountiful harvest (Oettinger 1983, 71-2). The Ayotoxtla boulder is similarly located near a sacred cave where local residents petition rain gods for plentiful rains during ceremonies held from the 22nd to the 25th of April. Interestingly, this boulder is also marked by three large cavities which fill with water during the rainy season and may have been used during propitiatory rituals.

There are only two sites with cup-and-ring marked stones dating from the Middle and Late Preclassic periods (700 BC – AD 250): Chalcatzingo in Morelos, Mexico and Tak’alik Ab’aj in Retalhuleu, Guatemala. Chalcatzingo is a large Formative period village site located within the Amatzinac river valley of eastern Morelos. The site is best known for its large corpus of Olmec-style rock carvings and sculptures. The only known cup-and-ring marked stone from the site occurs on a small boulder located within the Amatzinac river valley of eastern Morelos. The boulder contains two cup-and-ring marks (Figure 3). Beneath and to the right of these petroglyphs, there are two eroded designs that resemble lazy-S scrolls. David Grove (1987, 166) interpreted the concentric circles as possible Formative period versions of the Postclassic chalchiuitl glyph, representing the concept of “precious water.” A similar cup-and-ring marked stone has been documented along the Pacific Coast of Guatemala at Tak’alik
Ab’aj. This large ceremonial center is situated on a gentle slope flanked by the steep walls of the Río Ischiyá barranca to the east and a series of significantly smaller ravines carved by the Arroyo San Isidro and the Río Nimá to the west. Tak’alik Ab’aj has a long history of occupation. It was founded as an agricultural village during the Early Preclassic period (c. 2000-800 BC) and was occupied through the Late Preclassic (300 BC – AD 250) and Classic (AD 250-900) periods (Schieber de Lavarreda & Orrego Corzo, 2002, 22-23). The cup-and-ring marked stone is located on the northern outskirts of the central zone (Terrace 5) in lands currently occupied by the Reserva Natural Privada Buenos Aires near the Río Ischiyá. It was originally documented by the University of California at Berkeley and identified as Monument 38 (Graham, 1981). It consists of an andesitic field boulder, measuring 1.15 m in height, 1.45 m in length, and 1.10 m in width, with two cup-and-ring marks on its upper surface (Figure 4). According to Graham (1981, 169), these concentric rings may have been placed deliberately above the apex of a large protuberance and fissure in the boulder in order to give the impression that the rings are eyes and that the protuberance is a nose. On the basis of this implied anthropomorphism and apparent volumetric concerns, he argued that these two markings represented the initial stages in the development of pot-bellied boulder sculptures which he linked to the emergence of Olmec-style art. Although Graham’s assertions regarding the early date of potbelly sculptures and their relationship to Olmec-style art have been criticized (Guernsey, 2010, 221), his interpretation of the boulder’s anthropomorphic form may still be valid.

Unlike the Preclassic examples mentioned previously, the two Classic period cup-and-ring marked stones under consideration are not directly associated with settlements. Their chronological positioning was ascertained indirectly using archaeological associations and iconographic comparisons. For example, the cup-and-ring motifs of Cerro Tres Peñas in Hidalgo were located near the Middle Classic period site (AD 200-750) of Xihuingo, situated approximately 35 km northeast of the urban center of Teotihuacán (Wallbrath, 2001, 43). Although it is debatable whether the cup-and-ring motifs are contemporaneous with the Classic period occupation at Xihuingo, the inhabitants of the site appear to have oriented its structures towards the two mountains with the rock art (Acevedo Sandoval et al. 2002, 68-9; Lorenzo Monterrubio, 1999, 62). The Classic period use of ring-like carvings at the site is also attested through Xihuingo’s pecked crosses and circles as calendrical devices and astronomical markers (Aveni, 1989; Wallbrath, 2001). At least one of these pecked crosses (Xih-9) is carved next to a cup-and-ring mark suggesting that these geometric markings may have also played a role in astronomical observation or its associated cultural functions at Xihuingo.

Another site that features cup-and-ring marks in association with other petroglyphs is Finca Las Palmas, located near the Grijalva River in central Chiapas, Mexico (Navarrete, 1959; Navarrete et al. 1993; Weber & Strecker, 1980). The site consists of a large boulder field containing at least 100 carved stones adorned with cup-marks, representational and abstract anthropomorphic and zoomorphic engravings as well as several different types of geometric carvings (Weber & Strecker, 1980, 71). Among the geometric figures are numerous spirals, curved lines, U-shaped designs, and cup-and-ring marks. Originally identified as Stone 34 by Weber and Strecker (1980, Plate 15c), this boulder contains two cup-and-ring marks and five cupules on its superior surface. Although the chronological placement of Stone 34 is unclear, Early and Middle Classic period symbols such as Zapotec glyph C (Stone 36) and depictions of I-shaped ballcourts (Stone 18) have been found on other carved boulders at the site (Navarrete et al. 1993, 83; Weber & Strecker, 1980, 24-5, 40-4, 72). These associations suggest that many of the carvings at Finca Las Palmas can be attributed to the Classic period.

To a certain extent, the cup-and-ring marks associated with Postclassic period Mesoamerican peoples are remarkably different in their scope and placement from their predecessors. Most of these motifs were incorporated into structures placed within the ceremonial cores of major urban centers such as Tzintzuntzan in Michoacán and Tenochtitlán-Tlatelolco in the Basin of Mexico. These designs were also occasionally repeated on a large scale suggesting that they had a deep symbolic meaning and ritual purpose in either their use or manufacture at these urban centers.

First documented by Jorge Acosta (1939), many of the petroglyphs of Tzintzuntzan, the Late Postclassic period (AD 1450-1530) capital of the Tarascan Kingdom in Michoacán, are carved into the stone-facing of the basal platform for the yacata pyramids. At least ten petroglyphs have been found on these platforms (Mountjoy, 1974, 19). These include spiral motifs, scrolls, anthropomorphic faces, and cup-and-ring marks (Mountjoy, 1974, 20, Fig. 9). Another 23 carved stones, originally from the archaeological site, were also placed in the walls of the colonial buildings of the San Francisco Monastery such as the La Concepción, La Soledad, and San Francisco...
chaplés (Mountjoy, 1974, 19-21, Figs. 9-10). Several others were found in the convent and the associated atrium. The two cup-and-ring marks at Tzintzuntzan were originally found on the stone platform for Yacata No. 5, one of the main pyramids at the site (Acosta, 1939, 88). Each mark was carved on the smooth surface of a worked stone and consists of two concentric circles set around a central pit. Unfortunately, since the platforms and yacata pyramids were reconstructed it is not possible to know the original placement of the carved stones and their associated motifs.

The Late Postclassic period (AD 1325-1521) island capital of the Mexica, Tenochtitlán-Tlatelolco, also had a number of cup-and-ring motifs carved on its major buildings. At Tlatelolco, cup-and-ring marks similar to those found at Tzintzuntzan were observed on the north and south sides of its Templo Mayor, a large pyramid with a double stairway and two temples (Guilliem Arroyo, 2012). At least 150 carvings have been found on the second construction phase of this structure. One hundred are represented on the Huizilopochtli (south) side and fifty have been documented on the Taloc (eastern and northeastern) side of the temple. Many of these were illustrated by Antonieta Espejo (1947). They appear to occur at regular intervals. However, because the Templo Mayor at Tlatelolco is a reconstructed feature, it is difficult to ascertain the primary context of its carvings. Nonetheless, it is possible to demonstrate that 21 different designs occur throughout the structure, including spirals, scrolls, flint-like shapes, fret-designs, and cup-and-ring motifs (Mountjoy, 1974, 21, Fig. 10).

A little further south in the sacred precinct of Tenochtitlán, similar designs were incorporated into the stones at the base of the main Templo Mayor. The first appears to be a spiral design. The second corresponds to the cup-and-ring marks observed at the Templo Mayor in Tlatelolco (Mountjoy, 1974, 22). Unfortunately, dating these carvings has been difficult because Mountjoy did not specify which construction stage of the Templo Mayor of Tenochtitlán contained these designs. However, similar carved stones displaying conch shells and concentric circles have been found on the pavements associated with either Construction Stage III or Stage IV which are associated with the reign of Moctezuma I (AD 1440-1469) (López Luján, 2005, 8).

**Interpreting Cup-and-Ring Marks in Ancient Mesoamerica**

Despite the relatively small number of cup-and-ring marked stones documented in Mesoamerica, the nine sites with examples of these geometric markings have yielded enough information to detect a number of historical trends regarding their use and to assess various interpretations of these designs. Historically, there appears to have been a slow progression from the use of cup-and-ring marks on natural rocks in the Preclassic and Classic periods to their appearance on worked stones at several Postclassic sites (Table 1). There was also a tendency for cup-and-ring marked stones to be used outside the confines of the ceremonial cores of their respective sites during the Late Archaic-Early Preclassic period and again during the Classic period.

Such historical patterns are important to note because apart from Graham's assertion regarding early anthropomorphism at Tak'alik Ab'aj (1981), most interpretations of cup-and-ring marks have relied on Postclassic period analogies. From this comparative perspective, concentric circles may signify either “jade or precious water” (Grove, 1987, 166; López Luján, 2005, 8) or “conch shells” (Mountjoy, 1974, 27-9; Navarrete et al. 1993, 109). Although conch shells figure prominently in the décor of the Templo Mayor and co-occur with concentric designs in depictions of flooding water in Late Postclassic painted books such as the *Codex Borbonicus* (Pasztory, 1983, 182-3), their association with cup-and-ring marks has often been based on confounding “conch shells” with spiral petroglyphs. Examples of spiral petroglyphs have been found in Nayarit (Mountjoy, 1974), Michoacán (Faugère, 2005; Hyslop, 1975), Hidalgo (Lorenzo Monterrubio, 1999), and Sonora (Ballereau, 1990). Sometimes spiral motifs will occur at the same sites as cup-and-ring motifs, such as Ayototla in Guerrero, Chalcatzingo in Morelos, and Finca Las Palmas in Chiapas. However, in most of these instances the spiral motifs and cup-and-ring marks occurred either in different contexts or on distinct stones. It is therefore difficult to sustain the argument for equating all cup-and-ring marks and spiral marks in ancient Mesoamerica.

Another way to understand these enigmatic markings is to examine their respective site-specific contexts for clues to their meaning. In most of the Mesoamerican sites with cup-and-ring marks, the designs occur in areas of privileged access. For instance, both of the carved boulders from Totomixtlaahuaca and Ayototla in Guerrero were situated within a few hundred meters of sacred caves that continued to be used during seasonal rituals. At Chalcatzingo, MCR-17 was found near the central plaza but next to Terrace 2, the location of an elite residence; while the Classic period cup-and-ring petroglyphs near Xihuingo were placed on rock outcrops away...
Conclusions

This paper was intended to present a preliminary discussion of cup-and-ring marked stones in ancient Mesoamerica. Although these markings tend to be rare, cup-and-ring marked stones were produced over a long period of time, from the Late Archaic period (c. 2000-1800 BC) to the Late Postclassic period (AD 1325-1530). During this time, the medium for expressing this motif changed from natural boulders to worked stones that were incorporated into larger ceremonial structures. Previous researchers have variously interpreted cup-and-ring marks as symbols for water or jade, as representations of shells, or as early attempts to anthropomorphize natural rocks. By re-examining their site-specific contexts, it was shown that these marks were generally made in areas of privileged access and probably had an important ritual function in their respective sites. Further analysis demonstrated that while the aquatic symbolism of these marks is perhaps their most common attribute, their local contexts varied tremendously and some of these motifs may have had significantly different meanings related to astronomical observation and seasonal rituals.

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Bibliography


<table>
<thead>
<tr>
<th>Types of Cup-and-Ring Marked Stones</th>
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<tbody>
<tr>
<td><strong>Singular Petroglyphs</strong> (on natural stones)</td>
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<tr>
<td><strong>Late Archaic Period</strong></td>
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<td>• Totomixtiahuaca</td>
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<td>• Ayotoxtla</td>
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<td><strong>Middle/Late Preclassic Period</strong></td>
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<td>• Chalcatzingo</td>
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<td>• Tak’alik Ab’aj</td>
</tr>
<tr>
<td><strong>Classic Period</strong></td>
</tr>
<tr>
<td>• Xihuingo</td>
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<tr>
<td>• Finca Las Palmas</td>
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<tr>
<td><strong>Postclassic Period</strong></td>
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<tr>
<td>• Tzintzuntzan</td>
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<td>• Tlatelolco</td>
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<td>• Tenochtitlán</td>
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*Table 1: Types of cup-and-ring marked stones in Mesoamerica (Table key: X = type is present; --- = type is absent).*
Figure 1: Map of ancient Mesoamerica, showing the location of archaeological sites with cup-and-ring marked stones (drawing by the author).

Figure 2: The rock shelter of Canadzitiqueq (Ocotlan, Oaxaca, Guerrero) (photograph by the author).
Figure 3: Chalcatzingo MCR-17 at the Museo de Chalcatzingo (Morelos, Mexico) (photograph by the author).

Figure 4: Tak'alik Ab'aj Monument 38 (Retalhuleu, Guatemala) (photograph by the author).