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► **To cite this version:**

Araceli Rojas Martínez Gracida, Gilda Hernández Sánchez. Writing and ritual: the transformation to Mixteca-Puebla ceramics of Cholula. *Americae. European Journal of Americanist Archaeology*, 2019, 4, pp.47-70. hal-02469387

HAL Id: hal-02469387

<https://hal.science/hal-02469387v1>

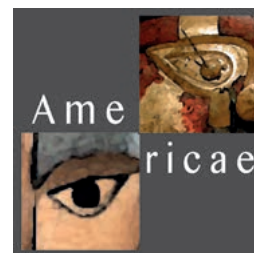
Submitted on 6 Feb 2020

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Americae | 4, 2019, p. 47-70

Manuscrit reçu en octobre 2018, accepté pour publication en juin 2019, mis en ligne le 23 août 2019

ISSN : 2497-1510

Pour citer la version en ligne :

ROJAS MARTÍNEZ GRACIDA Araceli and Gilda HERNÁNDEZ SÁNCHEZ, « Writing and ritual: the transformation to Mixteca-Puebla ceramics of Cholula », *Americae* [en ligne] | 4, 2019, mis en ligne le 23 août 2019. URL : http://www.mae.parisnanterre.fr/articles-articles/rojas_hernandez/

Pour citer la version PDF :

ROJAS MARTÍNEZ GRACIDA Araceli and Gilda HERNÁNDEZ SÁNCHEZ, « Writing and ritual: the transformation to Mixteca-Puebla ceramics of Cholula », *Americae* [en ligne] | 4, 2019, mis en ligne le 23 août 2019, p. 47-70 (http://www.mae.parisnanterre.fr/articles-articles/rojas_hernandez/).

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Writing and ritual: the transformation to Mixteca-Puebla ceramics of Cholula

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Codex-style ceramics are considered to be manifestations of the so-called Mixteca-Puebla style, a graphic system that developed in central Mexico in the last centuries before the Spanish Invasion. These ceramics were particularly frequent in Cholula, an important holy city and pilgrimage center. Although this site had a long tradition of painted vessels, by the Late Postclassic (AD 1250-1521), the polychrome manufacture changed; polychromes incorporated a larger repertoire of vessel shapes, they were made with higher quality, and they were painted with more complex decoration. In this paper, we propose that these transformations in polychrome pottery relate to the development of writing and new forms of ritual practices in Cholula. We looked for operative principles in the decoration of polychromes, similar to those found in codices, taking the model developed by Mikulska (2015). We also used the Nahuatl notions of *in tlilli in tlapalli* and *icuiloa* to explain this particular form of writing-painting and suggest that the manufacturers of these vessels had special skills which made them part of a selected group of intellectuals or *tlacuilos* in Cholulan society. Here, the features of this transition will be described by comparing the shape, manufacture, and decoration of Middle (AD 1150-1350) and Late Postclassic (AD 1350-1550) polychromes of Cholula.

Keywords: Mixteca-Puebla, Cholula, codex-style ceramics, writing.

Escritura y ritual: la transformación de la cerámica Mixteca-Puebla de Cholula

La cerámica estilo códice es considerada una de las manifestaciones del llamado estilo Mixteca-Puebla, un sistema gráfico que tuvo su desarrollo en el Centro de México durante los últimos siglos antes de la Invasión española. Esta cerámica fue particularmente frecuente en Cholula, un centro sagrado y de peregrinación de la época. Aun cuando el sitio presenta una larga tradición de policromos pintados, para la época Tardía (1250-1521), la manufactura de policromos cambió al incorporar un amplio repertorio de formas, con mejor calidad, y pintadas con decoración más compleja. En este artículo, proponemos que estas transformaciones en cerámica policroma se relacionan con el desarrollo de escritura y nuevas formas de prácticas rituales en Cholula. Buscamos principios operativos en las decoraciones de policromos, similares a los que se encuentran en códices, tomando el modelo desarrollado por Mikulska (2015). Usamos también las nociones in tlilli in tlapalli y icuiloa para explicar esta forma particular de escritura-pintura y sugerimos que los creadores de estas vasijas poseían habilidades especiales que los hacían pertenecer a un grupo selecto de intelectuales o tlacuilos dentro de la sociedad cholulteca. Aquí, las características de esta transición serán descritas al comparar la forma, manufactura y decoración de policromos de Cholula de los periodos Medio (1150-1350) y Tardío (1350-1550).

Palabras clave: Mixteca-Puebla, Cholula, cerámica tipo códice, escritura.

Écriture et rituel: la transformation de la céramique Mixteca-Puebla de Cholula

Les céramiques de style codex sont considérées comme l'une des manifestations du soi-disant style Mixteca-Puebla, un système graphique qui s'est développé dans le centre du Mexique au cours des derniers siècles avant l'arrivée des Espagnols. Ces céramiques étaient particulièrement fréquentes à Cholula, une ville sacrée et alors centre de pèlerinage. Bien que le site connaisse une longue tradition de pots peints en polychromie, on observe un changement à la fin de la période postclassique (1250-1521), cette tradition incorporant un large répertoire de formes de meilleure qualité et peintes avec un décor plus complexe. Dans cet article, nous proposons que ces transformations sont liées au développement de l'écriture et aux nouvelles formes de pratiques rituelles à Cholula. Nous examinons les principes opérationnels dans les décorations polychromes, similaires à celles trouvées dans les codex, en nous appuyant sur le modèle développé par Mikulska (2015). Nous utilisons aussi les notions en nahuatl in tlilli in tlapalli et icuiloa pour expliquer cette forme particulière de peinture-écriture et suggérons que les fabricants de ces céramiques possédaient des compétences spéciales qui les faisaient appartenir à un groupe restreint d'intellectuels ou de tlacuïlos. Nous décrivons les caractéristiques de cette transition en comparant la forme, fabrication et décoration des récipients polychromes de Cholula au cours de la période Postclassique moyenne (1150-1350) et récente (1350-1550).

Mots-clés : Mixteca-Puebla, Cholula, style codex céramiques, écriture.

AT THE TIME OF THE SPANISH CONQUEST, potters from central and southern Mexico were creating fine polychrome ceramics and decorating them in the same style as contemporary native painted books, specifically the Borgia group and Mixtec codices (as they are called today). For this reason, these vessels are usually referred to as codex-style or *tipo códice* ceramics (Hernández Sánchez 2010; Robertson 1963: 4). Together with the pictorial manuscripts and mural paintings, they were manifestations of the so-called Mixteca-Puebla style, which can be understood as a particular style and a set of symbols (Smith 2003), or as determined in recent studies, as a graphic communication system with particular operative rules (Mikulska 2015).

Mixteca-Puebla ceramics were particularly frequent in Cholula, which was a holy city and regional center of pilgrimage in central Mexico at that time. Archaeological research shows that in Cholula, potters had been making fine painted ceramics, in a relatively consistent style, since the beginning of the Early Postclassic period (AD 900-1200) (Lind 1994; McCafferty 1996; Suárez 1995). In the 14th century, however, potters made notable changes to these ceramics. These changes correspond temporally to the distinction that Elizabeth Boone and Michael Smith (2003) have drawn in many places in Mesoamerica between the styles and iconographies of ceramics and murals of the Early and the Late Postclassic (1200-1521). They relate these changes to increasing communication networks and interregional political alliances that gave way to common conventions in art and iconography. For example, symbols such as the so-called step-frets, solar disks, and feathered serpents began to be painted or carved in the 10th century on buildings, ceramics, and stone or wood artifacts in several parts of Mesoamerica, making them part of the Early Postclassic International Symbol Set (Smith 2003: 182). Later, the Late Postclassic International Symbol Set standardized, to a certain extent, the shape of these motifs and added others, expanding the range of messages depicted, most of them with religious content (Boone and Smith 2003: 189).

In this paper, we argue that, in the case of Cholula, these changes in the Postclassic symbol set were visible around the 14th century and related to the development of writing and to new forms of ritual practices in the city. We will show this by comparing the shapes, manufacture techniques, decoration, and sets of symbols of two types of Cholula polychromes, which cover this transition between the Middle and Late Postclassic times (1150-1550). Late vessels, unlike the earlier ones, had a more complex manufacture technique and were decorated with signs of the Mixteca-Puebla ritual and religious system. This graphic system can be considered part of the *in thilli in tlapalli*, a pair of words in Nahuatl, the main language at that time in Central Mexico, which was a well-known diphrasism to refer to a distinct writing system that used colorful and symbolic signs to convey particular rules of

literacy. This graphic system could also be better defined using the native concept of *icuiloa*, whose meaning in Nahuatl makes no distinction between writing and painting. These late vessels were produced by experts who knew this operative system, and therefore could be considered *tlacuilos*, the Nahuatl word for writers/painters who created pictorial manuscripts or codices. Similarly, the use of these vessels opened up a space for poetic and ceremonial speech, not restricted to being read literally nor phonetically.

THE MIXTECA-PUEBLA GRAPHIC SYSTEM

As Elizabeth Boone and Michael Smith (2003) have pointed out, within the topic of the so-called “Mixteca-Puebla style,” it is essential that we begin to make distinctions between formal styles and sets of symbols (or iconographies, as they call the latter). This is one of the reasons why there has been a lack of clear definition of this phenomenon in a huge universe of materials, mainly ceramics, which show a Postclassic International Style and either share an Early or Late Postclassic International Symbol Set. A revision of this issue, already raised by some authors (e.g., Smith and Heath-Smith 1980; Quiñones Keber 1994; Smith 2003) is much needed and it should start by looking closely at the styles and meanings of such manifestations in the different geographic regions where the Mixteca-Puebla style is said to be present. Partially, this is also what we attempt with this paper: to better identify in the sequence of polychromes of Cholula the distinction between two different styles and symbol sets (the later two phases following the sequence proposed by Lind 1994).

Polychrome vessels with similar manufacture technique and decorative styles to the Mixteca-Puebla pottery have been found as far as the Greater Nicoya in Costa Rica (Day 1994; McCafferty and Steinbrenner 2005), Guasave in North-Western Mexico (Ekholm 1942; Meighan 1971: 761; see also Pohl 2012a, 2012b; Mathiowetz et al. 2015 for examples in West Mexico), passing through the Basin of Mexico (Sejourné 1983; Whalen and Parson 1982), the Mixteca and Valley of Oaxaca (Paddock 1966; Spores 1974; Spores and Robles 2007; Caso, Bernal and Acosta 1967; Lind 1987; Pohl 2007a), and Central and Southern Veracruz (Drucker 1943; Medellín Zenil 1960; García Payón 1971; Daneels 1995, 1997) (Figure 1). These form part of the Postclassic International style, indicating an extended and shared knowledge in regard to making painted vessels. This corpus has also shown a wide temporal distribution: they have been found from the Early to Late Postclassic, and even earlier contexts corresponding to the Epiclassic period (AD 700-900) (McCafferty 2001; McCafferty and Steinbrenner 2005; Smith and Heath-Smith 1980). These vessels, however, although ostensibly similar in manufacture and

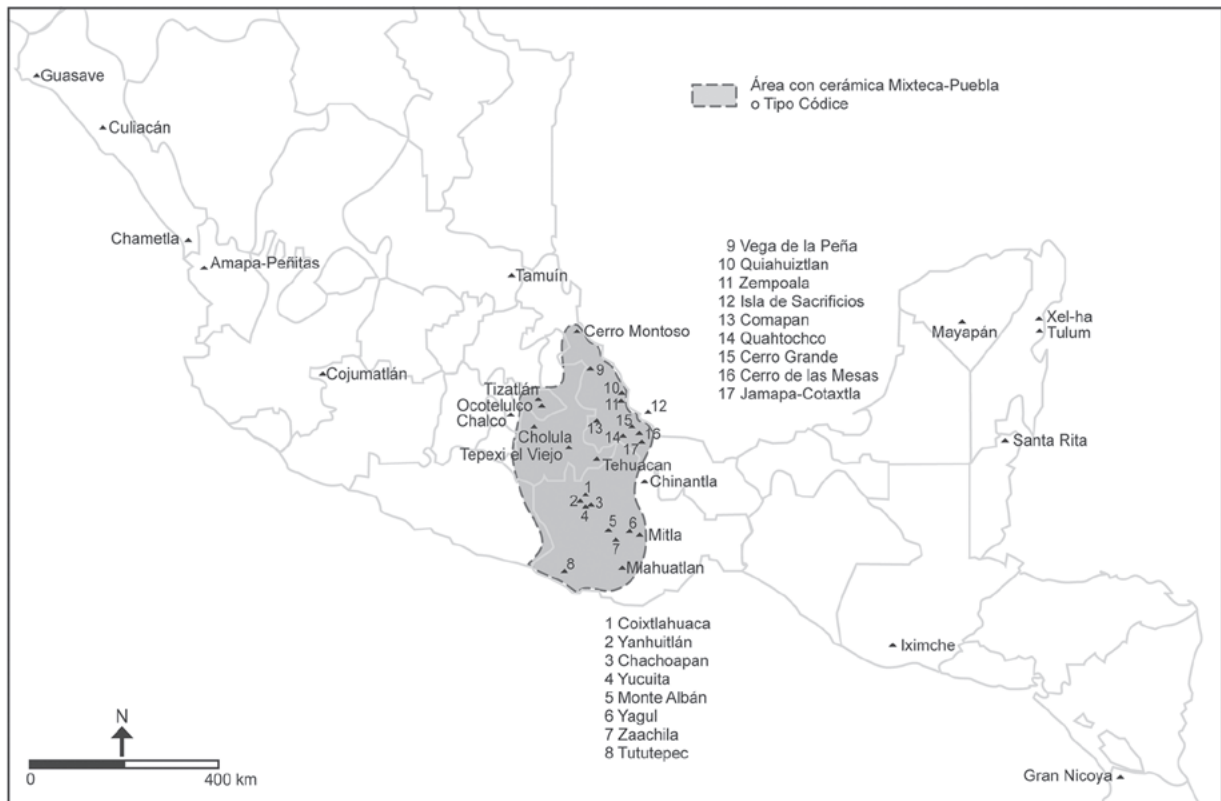


Figure 1. Distribution of ceramics with similar traits of the Mixteca-Puebla style (map drawn by A. Rojas Martínez Gracida).

decoration, are in detail dissimilar in terms of style and symbols to the Mixteca-Puebla vessels studied here. In-depth research is needed, like previously done by Lind (1967, 1994) in order to clearly identify styles and sets of symbols in correspondence with chronological associations of materials in these places and others, such as the Mixteca, the Basin of Mexico, Central Veracruz, and Oaxaca (see other attempts for comparing different media and its symbolisms between the valleys of Puebla-Tlaxcala, Tehuacan, and Mixteca regions in Pohl 2003, 2004, 2007a, 2007b; Pohl, Fields and Lyall 2012). Nonetheless, as Boone and Smith argue (2003: 189), the Mixteca-Puebla style—as manifested in codices, murals, and ceramics—seems to appear after 1200, and is almost always accompanied by a particular symbol set. So far, so-called Mixteca-Puebla pottery is confined to the regions of the Valley of Puebla-Tlaxcala, the Mixtec area, the Valley of Oaxaca, Pacific Coastal Oaxaca, Central Veracruz, and the Basin of Mexico (Hernández Sánchez 2010; Forde 2016).

The decoration on codex-style vessels has been referred to by several different names, such as “style” (Vaillant 1940; Nicholson 1960), “picture writing” (Nowotny 1961), “pictography” (Dibble 1971; Jansen 1982; Pohl 2004), or “set of symbols” (Boone and Smith 2003). We prefer to name it a graphic communication system, following the terminology used by Katarzyna Mikulska (2015) in the study of codices. We think that this name applies more accurately to a style

that conveys information through symbols that communicate concepts (and metaphors) using the stylistic devices of Mesoamerican ceremonial or poetic discourse, despite not being an exact replica of oral language.

CODEX-STYLE CERAMICS

Eduard Seler (1908: 522) was the first to recognize that some polychrome vessels shared the style of Borgia and Mixtec codices. In the 1940s, the term Mixteca-Puebla was coined by Vaillant (1940: 299). His vague definition of a “culture” and “period horizon” included a complex pantheon of gods, a political system, religious rites, ritual calendar of 260 days, the use of a 52 year cycle, ruling lineages, formalized warfare, specific ceremonial practices, and a system of pictorial “writing” or mnemonic notation. However, most probably, with this last trait he was thinking of codices. It was not until after the work of Noguera (1954) on Cholula polychromes, that Robertson (1963) stated that these ceramics could be called Codex Type.

Henry Nicholson (1960) examined this pottery and defined it as being part of the Mixteca-Puebla style, together with Codex Borgia, which he regarded as the best representation of this style. For him, the characteristics of this style were the use of outlines to create precise and geometric forms, vivid colors which convey meaning, and a particular corpus of standardized

motifs such as celestial and terrestrial bands, skulls and crossed bones, jades and *chalchihuites*, complexes of war composed by water and fire or shields and flags, stellar eyes, signs of the 260-day calendar, feathered and fire serpents, and deities with personal insignia (Nicholson 1960: 259). Later, Donald Robertson (1963, 1994: 23) added as a characteristic the presence of flat figures, without perspective and shadow, and painted on white or light backgrounds.

Polychrome ceramics in Cholula are very diverse, and for this reason several typologies have been suggested (Lind 1994; McCafferty 1994, 1996, 2001; Müller 1978; Noguera 1954; Peterson 1972). This has come as a challenge since there are very few undisturbed archaeological contexts in Cholula, a city with more than 2000 years of continuous occupation, and in addition, very little absolute dating (Plunket and Uruñuela 2005: 104). Until today, there is no agreement of a single ceramic sequence with precise time spans. However, so far it is clear that polychromes first appeared in Postclassic times (Hernández Sánchez 2005; Lind 1994; Plunket 1995; Rojas Martínez Gracida 2006; Salomón n.d.; Suárez 1995).

The first studies of codex-style ceramics regarded no significant differences between the ceramics from the Nahua and the Mixtec regions (Caso, Bernal and Acosta 1967: 466; Noguera 1954: 142). Michael Lind (1967, 1994) was the first to extensively study polychromes from Cholula, the Mixteca and the Chinantla regions, and he concluded no clear differences in vessel shapes and decoration between the regions. The studies of John Pohl (1998, 1999, 2003, 2004, 2007a, 2007b; Pohl, Fields and Lyall 2012) support the existence of two different cultural expressions, the Eastern Nahua and the Mixtec. Other studies of motifs on Cholula Codex Type vessels have been done by Seler (1908), Hermann Beyer (1969), Nicholson (1994) and Pohl (1998, 2007b). Gilda Hernández Sánchez (1995, 2005, 2010) made the first extensive and systematic study in order to explore the meaning of the decoration of codex-style ceramics, identifying a standardized arrangement of signs associated with particular vessel shapes and regions of provenience. She supported with empirical evidence the assertion that Cholulan vessels were usually used in feasting and probably other religious activities, and advanced the field toward a better comprehension of how the representational conventions may have reflected ceremonial language. Recently, research has focused on codex-style vessels, along with murals and the codices themselves, as part of a communication system across linguistic and cultural boundaries which involved commercial and ceremonial activity, marriage, festivity, and gift exchanges (Brockington 1982; Hernández Sánchez 2005; Lind 1994; Anders, Jansen and van der Loo 1994: 97; Pohl 1998, 1999, 2003, 2004, 2007a, 2007b; Pohl, Fields and Lyall 2012; Pohl and Byland 1994).

ABOUT WRITING IN THE MIXTECA-PUEBLA GRAPHIC SYSTEM

The so-called Mixteca-Puebla style, seen in codices, murals, and pottery, was in fact a system of graphs with its own conventions and structures, which aimed to communicate information. The standardization of its signs and associated orality permitted conventional reading (Jansen 1992: 20). This system was not restricted to one language (Boone 1994; Jansen 1982; Anders, Jansen and van der Loo 1994; Mikulska 2008). Its virtue relied on communicating between people speaking different languages and this worked efficiently in Late Postclassic times when interconnections between different regions and cultures became extended (Boone and Smith 2003). It represented historical, calendrical, divinatory, religious, and ritual information (e.g., Anders, Jansen and van der Loo 1994; Boone 2000, 2007; Jansen 1982; Jansen and Pérez Jiménez 2009; Mikulska 2015).

Despite showing (grammatical or syntactic) internal rules for transmitting information, to a certain extent similar to other communication systems that are rapidly regarded as writing—such as mathematics and music (see Boone 1994; Mikulska 2008, 2015)—, the Mixteca-Puebla system, even on codices, has been denied the status of *writing* by some authors (Marcus 1992; Pohl 2003). In Mesoamerican literature, albeit not opposing to its communicative virtues, it is frequently referred to by different names—writing, pictography, iconography, art style. Mikulska (2014, 2015) has extensively showed a lack of definition and consistency in terminology on this topic, which is permeated by a heavy reliance on *writing* as verbatim representation of a spoken chain of words. As critically raised by Malcolm Hyman (2006), this traditional definition of writing, i.e. a graphic system which phonetically replicates oral language (following Gelb 1952, Havelock 1982 and DeFrancis 1989 just to name a few advocates of this view), tends to underlie that writing systems around the globe evolve to more abstract and less iconic forms of communication, the alphabet being the most advanced example. This posture also reflects the dichotomy between literate and oral societies in which the former is best represented by having an alphabet whereas all other systems are limited (Connerton 1989; Goody 1987, 2000; Goody and Watt 1963; Ong 1982; see Brokaw 2010 for valuable attempt to deconstruct this view). These perspectives consider the goal of writing to be a passive and autonomous record—the book being the main medium—, and reading an unperformed and individual experience (Assmann 2006: 60). In fact, alphabetic writing fails to loyally represent speech (i.e., the tonal languages, see Harris 1995: ch. 14). Yet other systems—charts, maps, computer programs, emoticons—reflect great sophistication of abstraction and intellectual work, are vigorously thriving in present-day, and convey more

efficaciously emotional information (Hyman 2006; Mikulska 2015). We could also assert that, by neglecting writing as part of some cultures worldwide, a degree of Eurocentrism plays a role and the dichotomy of primitivism and modernity is emphasized (see also Battestini 2000; Mignolo 1995).

The Mixteca-Puebla graphic system transmits information by standardized images. These are not mere paintings nor illustrations; they follow particular operative rules that are still the subject of study and definition (Boone 2000; Hernández Sánchez 2005; Jansen 1982; Mikulska 2008, 2015). For this reason, among others, some authors have claimed the necessity of broadening the definition of writing, and hence, consider this to be *real* writing (Boone 1994; Hernández Sánchez 2005; Jansen 1982; Mikulska 2008; Mignolo 1995; see Hamann 2004, 2008 for a deviation of “writing” as “instruments of seeing”). Yet, some scholars use the principles of semasiography to better understand it (Boone 1994; Martin 2006; Mikulska 2008). Nonetheless, the best definition for this graphic communication system may be found in the original indigenous languages.

In Nahuatl, the language usually linked to the Mixteca-Puebla graphic system (Nicholson 1960, and also to the culture of the Puebla-Tlaxcala and Tehuacan valleys Pohl 2003, 2004, 2007b), the concept of writing is referred to with the kenning or diphrasism *in tlilli in tlapalli*, which literally means “the black, the red” (Boone 2000; Mikulska 2008) or “the black, the colorful” (Thouvenot 2010; Mikulska 2015). Diphrasisms consist of couplings of words or signs, usually concrete, which in combination produce new meanings that are usually abstract (Garibay 1987: 67). In this case, the words *in tlilli in tlapalli* may allude to the writing and painting of codices because of the use of colorful inks, among them red lines to guide the order of reading, and the outlines in black to delineate each of the images such as persons, deities, objects, and animals. In fact, this term suggests a broader semantic field. In the Florentine Codex, the main source of information for the culture and life of ancient people of the Basin of Mexico, written by friar Bernardino de Sahagún in the 16th century, it says in Nahuatl: *Yn tlapouhqui yn tlamitini yn imac mani yn amuxtli, in tlacuilolli, in quipia yn tlili, yn tlapalli* (Sahagún 1979 [1577], I: 24). This phrase is translated as: “The one who counts, the wise, in whose hands they have the books, the writing-paintings, who possess the black, the colorful.” This sheds light on the intellectual skills of those who had these books, describing them as wise people, the *tlamatimine* (Mikulska 2008: 18).

It is also of value here to place emphasis on the Nahuatl word *tlacuilolli*, which derives from the verb *icuiloa*, meaning “to paint” or “to write,” and also extended to many other crafts, such as “to sculpt” and “to engrave” (Molina 1980 [1555-1571]; Thouvenot 2010). This native definition of writing-painting describes the creation of “organized visual shapes” (Mikulska 2008: 37; 2015:

234), pointing out the inclusion of images of many sorts (Thouvenot 2010) and showing that there is no distinction, as in a traditional writing definition (Gelb 1952), between writing and painting. This is clearly shown in Nahuatl, and in other Mesoamerican languages (e.g., in Mixe the word *jääp*), where there is no distinction made between painting, writing, or creating with hands and tools. In the case of ceramics, both molding with clay to create pots and writing/painting on them pertained to the realm of wise and skillful people, owners of knowledge, the *tlamatimine*. In fact, along with other arts such as weaving, paper adornments, body-painting, metallurgy, and even the making of a particular type of *atole*, a maize-based beverage, these were referred to with a word derived from *icuiloa*, of whose handicraftsmanship the *mimatini* or *tlamatini*, “those who know,” were responsible (Thouvenot 2010).

Recently, Mikulska (2015), besides arguing that the phonetic quality of the signs should not be the parameter for distinguishing “real writing” from “not real writing,” has pointed out that their structural elements, or operative principles as she calls them, should be more closely analyzed and defined. In her analysis, mostly based on pictorial manuscripts, codex writing operates under the following principles (Mikulska 2015). It is: a) iconic, meaning that it transmits messages via an image or drawing, b) glottographic, so it reproduces sound to refer to personal names and toponyms, c) notational, where the spatial organization of graphic symbols along different schemes, such as outlines, radiation from center, and linear sets, provides order to the thought process and allows the creation of new meanings, and d) semasiographic, whose graphic system allows it to be verbalized in a continuum of discourse, without faithfully reproducing a unique original and previous model. Within the latter, diphrasistic kennings, or in this case, “digraphisms” may operate. These are units of meaning constructed by metaphors which resemble those diphrasisms in oral speech without being related one to one. In other words, this reproduction of discourse is based on making an abstraction of reality (Mikulska 2015: 257). As lucidly shown by Daniele Dehouve (2009) in her studies of Mesoamerican prayers, metonymic series frequently play a role here. A metonymic series may name a concept by the aggregation of things, beings, attributes or actions whose semantic field is by definition extended, equivalent, contiguous, analogous and/or metaphoric (Dehouve 2009). Mikulska (2010) calls this communicative accumulation or redundancy, also applying it to graphic forms. Furthermore, the ways to arrange graphic symbols on codices are without doubt capable of (re)constructing discourse (Mikulska 2015: 128). Nevertheless, the aim is neither to represent an exact view of the world nor to encode every phonemic unit of speech (these are not glottic texts). Different principles prevail in different proportions depending on each case, in which other aspects should be taken

into account, such as the divinatory function of Borgia Group codices, both as prognosticative and prescriptive manuals. In fact, like Galen Brokaw (2010) suggests, it is time to understand Mesoamerican (and Andean) semiotic practices as polygraphic, i.e., making use of multiple media and diverse conventions in a single medium.

Following these elements, hereafter we will describe the features of the transition, which gave place to codex-style ceramics in Cholula. We will show that in the case of Codex Type polychromes, the writing follows similar rules as in the codices and developed its own conventions to work adequately and coherently with the respective form of the vessels. This data is derived from the first detailed iconographical study of Middle Postclassic pottery, done by Araceli Rojas Martínez Gracida (2006), and the comprehensive study of Codex-Style vessels carried out by Gilda Hernández Sánchez (2005).

MIDDLE POLYCHROME VESSELS FROM CHOLULA

To date, the earliest polychrome tradition in Cholula, corresponding to Lind's Aquiahuac phase, has been neither systematically nor thoroughly described. However, a detailed study was completed for Middle Postclassic or Tecama polychromes (Rojas Martínez Gracida 2006). This phase has tentatively been dated to between ca. AD 1150 and 1350 (Lind 1994: 81), based on a single non-calibrated radiocarbon date of AD 1250 (Mountjoy and Peterson 1973: 30). The sample studied included 448 examples of vessels (complete, semi-complete, and fragments big enough to recognize the arrangement of decoration) and comprised three types defined by Lind (1994: 81) according to variations in decoration (Silvia, Diana, and Albina types), and one type classified by McCafferty as Cuaxiloa (2001: 59-63). In the dataset, 74% of the pieces came from archaeological excavations in diverse contexts throughout the city (e.g., the Great Pyramid, its immediate surroundings, and household deposits), although in only a few cases was the exact place of deposition known due to the lack of detailed information. The rest did not have specific archaeological provenance but were attributed to Cholula due to style.

These polychrome vessels have been recovered in excavations of public and ceremonial spaces (Noguera 1954: 86, 122-136), but also in domestic areas at the city's periphery (McCafferty 1996: 314; 2001: 117; Mountjoy and Peterson 1973: 30). For example, in a burial at the Great Pyramid, a plate was found containing human remains (López, Lagunas and Serrano 2002: 66-69). They were also often part of domestic activities. McCafferty (1996: tab. 5) reports that they constituted 8% of the pottery fragments recovered from a trash midden, and 12% of those found on the floor of a house at Cholula's periphery. Since these vessels were present in different contexts, they most likely had various uses.

VESSEL SHAPES OF MIDDLE POLYCHROMES

The inventory of vessel shapes of middle polychromes is restricted (Figure 2). By and large, the most common forms in the sample studied are hemispherical bowls (42% of the sample), everted bowls (27%), often with tripod supports, and plates (23%) (Figure 2). Very few examples were *ollas* (6%) and censers (1%). The shapes of these decorated vessels support an association with the early part of the Postclassic period. In particular, the supports, bases of bowls and plates, and the form of bowl walls are similar to those of the Mazapa complex in central Mexican Tula, dated to AD 1000-1200 (Cobean 1974: 32, 1990: 274, fig. 134d) and the Aztec I complex in the basin of Mexico, dated to AD 1150-1300 (Cervantes, Fournier and Carballal 2007: 282-289; Minc, Hodge and Blackman 1994: fig. 6.2, 6.3, 6.4). From their shape, these vessels were probably serving wares that were used particularly for individual consumption of food and drinks. Since they were common in domestic contexts, it is very probable that they were used for domestic activities. Still, it is possible that they had other uses, for example as feasting vessels or containers for offerings in domestic or public ceremonies.

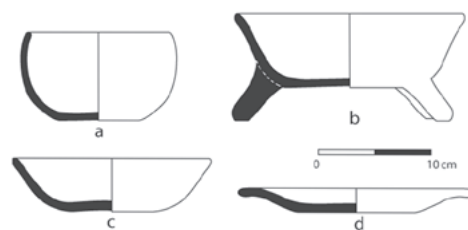


Figure 2. Vessel shapes of middle polychromes: a) hemispherical bowl, b) tripod everted bowl, c) everted bowl, d) plate (drawings by A. Rojas Martínez Gracida).

MANUFACTURING QUALITY OF MIDDLE POLYCHROMES

Middle polychromes were more elaborate than other contemporary local vessels made for cooking and transportation. They were distinguished by polychrome decoration, which was the result of several manufacturing steps. First, artisans smoothed the vessel surface and submitted it to a first firing. The surface was then covered with a thin matte white slip. This slip was covered with orange or white paint. On this background, potters painted with black, red, or orange lines geometric elements and complex motifs. Afterwards, they polished the surface, and submitted the vessel to a second firing. The result was a polychrome vessel with a slightly burnished, although rather matte surface. The three types of polychrome vessels from this time period varied in decoration but not in manufacturing quality, although the painted decoration and firing of the Cuaxiloa type was less carefully done than the others, and its finish was not as burnished.

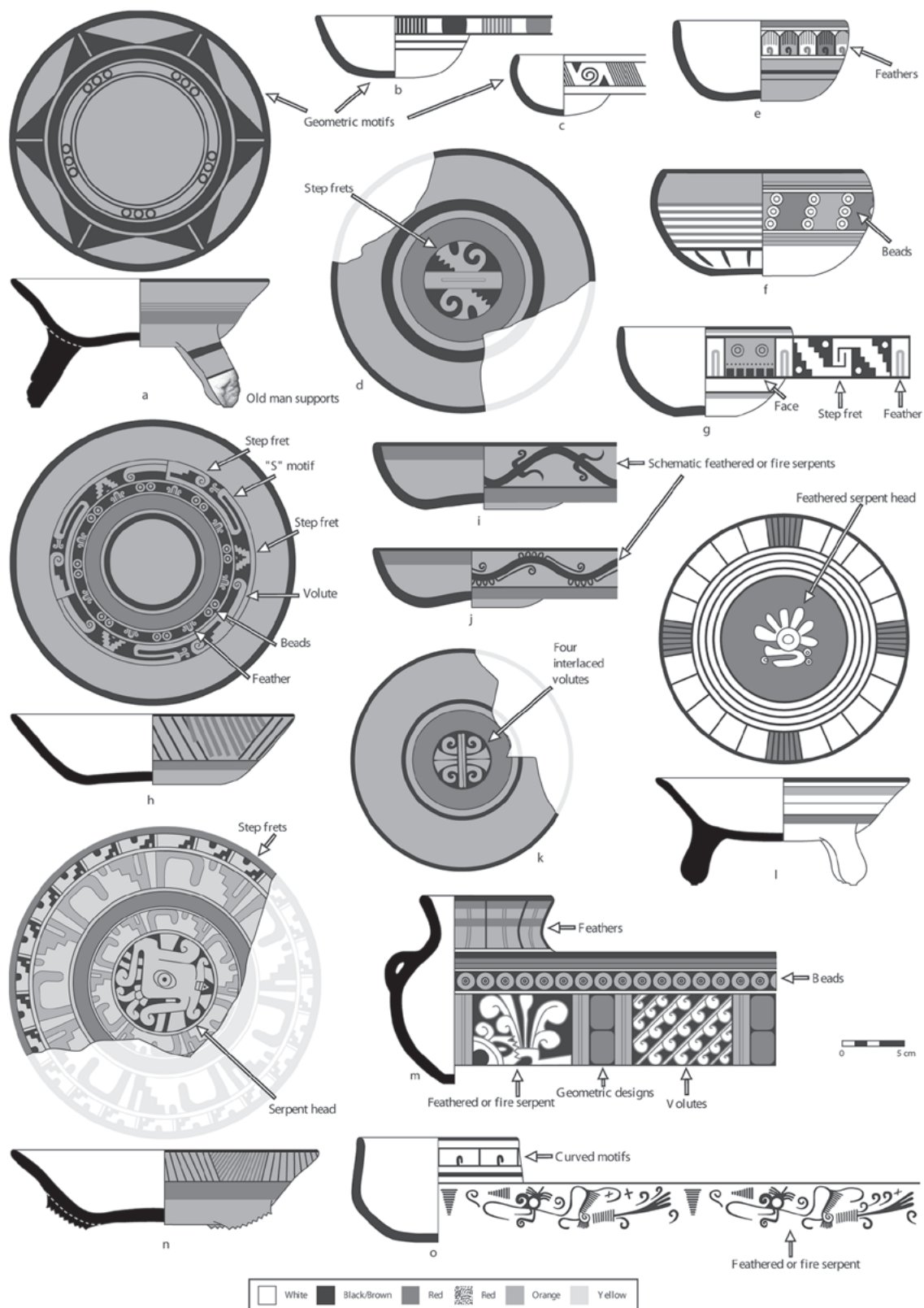


Figure 3. Decoration of middle polychromes of Cholula. Place of deposit: Centro INAH-Puebla, a) 200006, c) 200174, l) 215640; Centro INAH-Puebla, formerly in the Museo de la Ciudad de Cholula (MCdCh), e) 566832, h) 567865, i) 567660, j) 567182, m) without number, o) 567454; Universidad de las Américas-Puebla (UDLAP), b) UA.79.430, d) UA.79.605, f) UA1.11855, k) UA.79.632; Museo de Sitio de Cholula, g) without number, n) without number (drawings by A. Rojas Martínez Gracida).

DECORATION OF MIDDLE POLYCHROMES

The three types of polychrome vessels assigned to Lind's Tecama phase differ in the use of color and style in their decoration. The background color of the vessels may be orange or white, and the decoration can be black and red, or a combination of black, red, orange, and yellow. In addition, the lines, geometric motifs, and signs painted may either be fine or bold. However, the three types share decorative themes and arrangement on the vessel. Usually, signs were painted in bands close to the vessel's rim. Sometimes, in the bottom of bowls and plates, a single sign, larger in size, was painted, although sporadically a combination of signs forming a complex composition was also painted.

Upon these vessels were depicted geometric motifs (Figure 3a, m) and signs of the Early Postclassic International Symbol Set. Often they were common elements of that corpus, such as step-fret motifs (Figures 3d, g, h, n, 5a, c), feathers (Figures 3e, g, h, m, 5b, c, d), beads (Figures 3f, m, 4a), and schematic feathered and fire serpents (Figure 3i, j, l, n, o). Painted birds (Figure 5a, d), faces or skulls (Figure 3g), old human faces (Figures 3a, 5b), and a sign formed by four interlaced volutes (Figure 3k) were also represented, but less frequently. The latter appears in Mixtec codices (Rojas Martínez Gracida 2009). It has been identified as a symbol for offering (Caso 1992: 38), and for a ceremonial speech given to the four directions (Anders, Jansen and Reyes García 1993: 123, 235). One distinctive sign found

on the bottom of plates and bowls is a face in profile (Figure 4). In some cases, the face shows human traits, and in others monkey attributes, for example, an open mouth and a visible tongue. All cases share the presence of facial painting and speech volutes. Occasionally, close to the volutes precious stones and feathers were represented to indicate that the speech was precious and noble, or soft and elegant like songs, poems, or even prayers. The face painting is similar to those of entertainers (dancers, musicians, and acrobats) related to gods Ixtlilton and Huehuecoyotl in the Mixtec and Borgia codices (Spranz 1993: 339; e.g., Codex Borgia 1993: 60; Codex Vindobonensis 1992: 44); therefore it has been interpreted as a personage involved in clownish performing arts and festivity (Pohl 2003: 322; Pohl, Fields and Lyall 2012: 31; Rojas Martínez Gracida 2008b, as opposed to the interpretation of sacrificial heads given by Solís, Velásquez and Velasco 2007: 117, 129). Perhaps the iconography of this personage is the one nearest to the codex type style, as McCafferty has suggested (2001: 121-122).

There are some vessels whose decoration seems to conform to a thematic complex; that is, they show a group of signs that appear together in a standardized arrangement and have related meanings (Rojas Martínez Gracida 2008a). An example of this might be the so-called Complex of Sun and Light, which is constituted of eagles, hummingbirds, and other unidentified birds associated with feathers and red circles (Figure 5). These circles could be pointing to the manner in which the *tonalli*, the

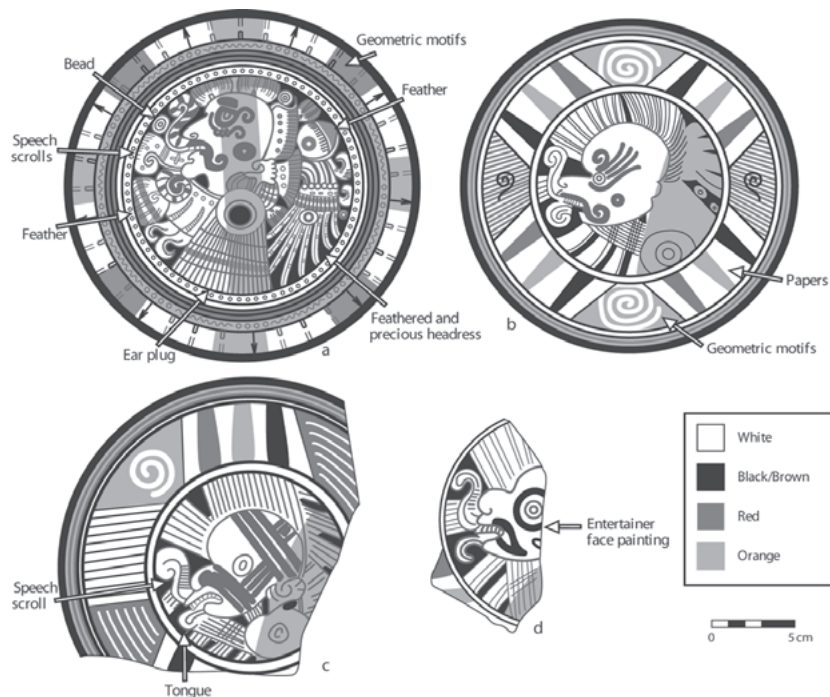


Figure 4. Middle polychrome plates with the face of an entertainer.

Place of deposit: a) 567063, Centro INAH-Puebla, formerly in MCdCh; b) in exhibition, Museo de Sitio de Cholula; c) 201259, Centro INAH-Puebla; d) without number, UDLAP, Puebla (drawings by A. Rojas Martínez Gracida).

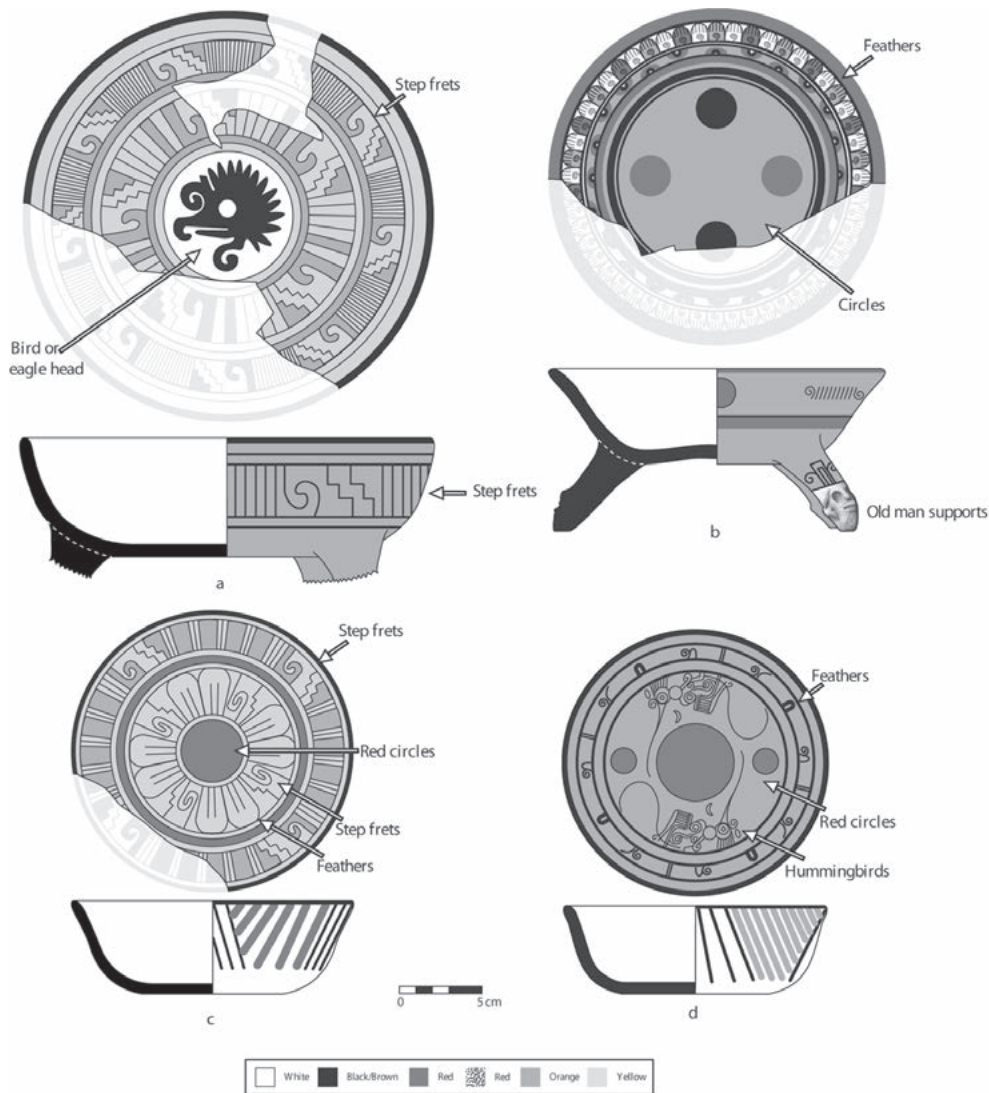


Figure 5. Complex of sun and light painted on middle polychromes. Place of deposit: a) without number, Museo de Sitio de Cholula; b) 567906, c) 567482, Centro INAH-Puebla, formerly MCdCh; d) 200020, Centro INAH-Puebla (drawings by A. Rojas Martínez Gracida).

body's life energy coming from the sun, is represented in central Mexican iconography (Klein 2002: 31) (e.g., Codex Borgia 1993: 35). These compositions, referring to eagles and the sun, may allude to the *cuauhxicalli*, which were containers for blood offerings (Figure 5b and 5c) (Rojas Martínez Gracida 2008a). However, these signs and vessels are not frequent, and in fact other examples of thematic complexes cannot be distinguished.

Several signs painted on these vessels are shared by contemporaneous polychrome pottery from other regions, although due to the lack of accurate chronologies and absolute dating, exact correlations should be taken cautiously. Similar motifs have been found in vessels from the Tehuacan Valley (MacNeish, Peterson and Flannery 1970: fig. 111), the Basin of Mexico (Noguera 1935: fig. XII; Pasztory 1983: fig. 310; Sejourne 1970: fig. 53, 59, 103, 118-120; 1983: fig. 68, 85); central and southern Veracruz (Drucker 1943: fig. 2), western Mexico (Ekholm 1942: fig. 4h, 9, 10; von

Winning 1996: fig. 327t, 328l-n, Pohl 2012a, 2012b), and the Huastec region (Ekholm 1944: fig. 22c-e). In particular, vessels from Cholula are remarkably similar in style and decoration to Chalco polychromes from the basin of Mexico (Sejourne 1983: fig. XXVIII-XXXIV, 171, 172, 175-177, 179, 182; Whalen and Parsons 1982: fig. 109h, j, l). This shows that middle polychrome ceramics from Cholula were embedded in the almost pan-Mesoamerican sphere of the Early Postclassic International Symbol Set.

LATE POLYCHROME VESSELS FROM CHOLULA

During the Late Postclassic, two kinds of painted vessels were made which were assigned to the Mártir phase, tentatively dated between ca. AD 1350 and 1550 (Lind 1994: 81). One kind is common; hastily painted ceramics with simple decoration using red and black

lines and curvilinear motifs on an orange-painted background (Nila type). The other kind of vessel has evidently higher manufacturing quality and is more complex in decoration (Catalina type). This type shows the codex style writing-painting, and therefore is considered to be a manifestation of the Mixteca-Puebla style.

The extensive and systematic study of codex-style vessels consisted of 467 complete and semi-complete objects, taken from archaeological collections, museums, and publications (Hernández Sánchez 2004a, 2004b, 2005, 2010). A large sample came from the Valley of Puebla-Tlaxcala; 24% of the dataset came from Cholula. No other place had a higher frequency (Ocotelulco in Tlaxcala was the second most frequent provenance, as 6% of the vessels came from there).

In fact, Cholulan codex-style vessels are scarce. Lind (1994: 86) reports that they represent between 2 and 5% of the ceramic artifacts recovered in domestic contexts in the city. McCafferty (1996: tab. 5) found less than 1% in the house remains that he studied. In contrast, the contemporaneous simply decorated pottery was quite commonplace. Lind (1994: 86) mentions that it constitutes at least 60% of all ceramic artifacts from house middens. McCafferty (1996: tab. 5) found that it amounted to between 11 and 46% of the pottery from various domestic contexts that he explored. Although in only a few examples of the samples studied has there been detailed data about their depositional context, it seems that codex-style vessels were more frequent in ritual and high-status contexts. This corresponds plausibly with their scarcity and high quality. They have been recovered in public and ceremonial areas such as the Great Pyramid (Marquina 1970) as well as in fills and trash pits in the *barrio* of Tianguiznahuac, a sector inhabited by nobles and merchants in Postclassic Cholula (Rojas G. 1985: 129). Moreover, a few vessels were found in context within a multiple burial in another part of the city (Suárez 1989). However, codex-style vessels have also been found in domestic areas at the periphery of Cholula (Hernández Sánchez 2005: 42; Suárez, Plunket and Uruñuela 1992). Although the nature of these domestic deposits requires more analysis (see Plunket and Uruñuela 2005), this may suggest that not only a restricted sector of the population had access to these fine ceramics. In general, however, codex-style vessels were more common in ritual and high-status contexts, and probably had various uses there.

VESSEL SHAPES OF LATE POLYCHROMES

The varying vessel shapes of codex-style pottery suggest different uses. A number were censers (18% of the sample from Cholula) and god-effigies (3%), both well-known ritual paraphernalia in ancient Mesoamerica. However, the majority of the artifacts were designed as serving vessels (Figure 6). Some are appropriate for individual drinking goblets (24%), vases (9%),

and hemispherical bowls (7%); others for individual consumption such as plates (15%), tripod everted bowls (13%), everted bowls (4%), and hemispherical bowls. Some, such as craters (7%), seem fit for the collective serving of food and drink. Some of these shapes belonged exclusively to codex-style vessels (goblets, vases, censers with pedestal base, craters). The inventory of shapes of the contemporary simple painted pottery was in contrast quite restricted. It included only bowls (most commonly tripods), and plates.

From their shape and high quality, codex-style vessels were probably serving wares for feasts. However, it is also very possible that some were also containers for offerings of food, beverages, or other substances. This conclusion is based on the fact that in the codices, pre-Hispanic burials, and present-day traditional communities, fine serving wares are used as receptacles

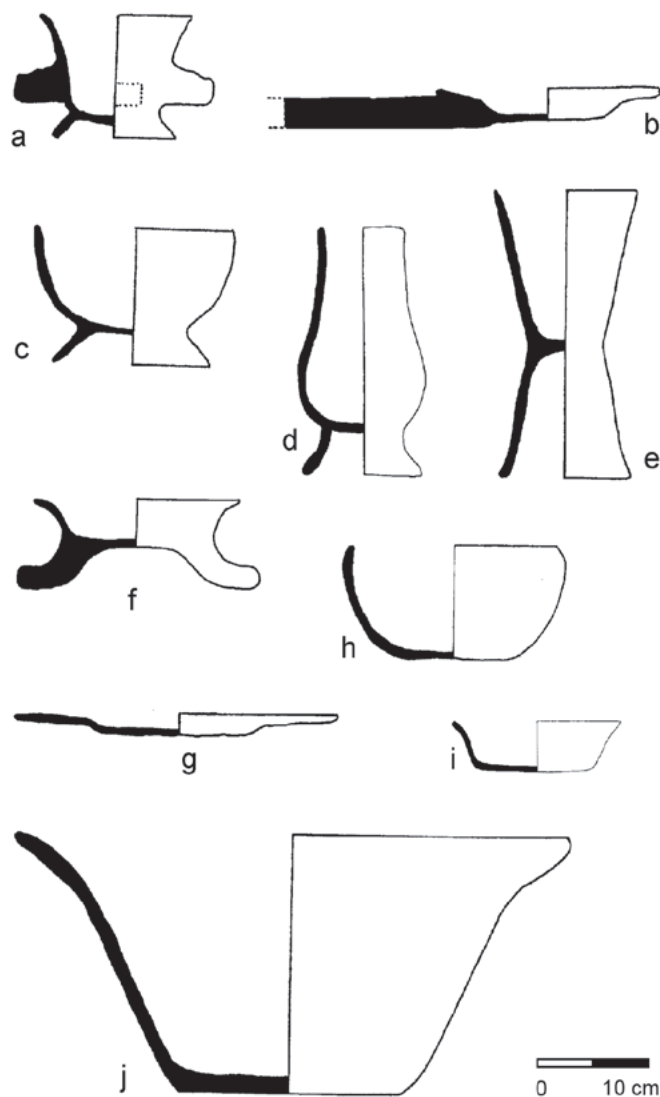


Figure 6. Vessel shapes of late polychromes (codex-style ceramics): a) censer, b) frying-pan censer, c) goblet, d and e) vases, f) tripod everted bowl, g) plate, h) hemispherical bowl, i) everted bowl, j) crater (drawings by G. Hernández Sánchez).

for offerings during diverse ritual activities. In the Codex Borgia (e.g., 1993: 8, 24, 45), vessels with shapes similar to the codex-style ceramics appear as containers for burning resins, or carrying food, *pulque* (an alcoholic beverage made of agave), cacao, or blood in various ceremonies. Lind (1994) had also noted colorful pots and bowls on feasting and ritual scenes in the Mixtec codices. Likewise, the shape of codex-style vessels supports their association with the last part of the Postclassic period. In particular, the supports, bases of bowls, plates, and the form of bowl walls are similar to those of the late Aztec pottery complex (Aztec III) in the Basin of Mexico dating from around AD 1300-1400 until the 16th century (Cervantes, Fournier and Carballal 2007: 280; Minc, Hodge and Blackman 1994: fig. 6.5, 6.6).

MANUFACTURING QUALITY OF LATE POLYCHROMES

Codex-style vessels were notably more elaborate than other contemporary local pottery, and were characterized by a very lustrous surface finish. First, artisans finely polished the vessel's surface, and submitted it to a first firing. Then they covered the surface's area where they planned to depict images with a white matte slip. They painted polychrome images with high quality paint on the slip, and delineated them in black. The background surface was also finely painted so that the white slip was completely covered. Afterwards, they polished the surface again until it became lustrous, and then submitted it to a second firing. The result was a fine vessel with a glossy appearance. For this reason Noguera (1954: 261) called them lacquer-style vessels. Their decoration was clearly more complex and carefully made than that of the contemporary simply painted vessels. In addition, their decoration was of a higher quality than that of the middle polychromes.

DECORATION OF LATE POLYCHROMES

On the vessels, signs were painted in a standardized manner, showing a consistent distribution and set arrangements (Hernández Sánchez 2005). Usually, vessels have a small number of signs on them which appear in repetition in bands around the vessel. Depending on the shape of the vessel, the size of the bands will vary. On plates, there is normally one band or several bands close to the rim where the signs are repeated, often with one large sign at the center. Some closed forms, such as bowls and censers, have bands occupying the broadest area of the exterior walls. Some have pairs of signs or sequences of several signs repeated along the band.

In these vessels, not only the painted images were meaningful; the background on which the images were depicted also conveyed information. The two main background colors are orange and black. In general, signs with meanings related to the sun, light, and festivity, including signs of sun rays, sacrificial tools,

eagles, warriors, and flowers, among others, appear on an orange background (Hernández Sánchez 2008). In contrast, signs associated with darkness and mystery, such as images of smoke, stellar eyes, animated flints, and iconography of death, appear on a black background. It seems that the artisans, and maybe also the users, categorized many of the vessel's messages following the fundamental Mesoamerican dual notion of light and darkness (Jansen 1997: 26, 27). The shift from darkness to light marks the beginning of the present time in the sacred history of the Popol Vuh (Tedlock 1996: 21) and the codex Vindobonensis (Jansen 1997: 14). This duality light-darkness is also seen on the Borgia codex, in which some rites are depicted with a light background (Codex Borgia 1993: 43, 44) and others with a night and darkness environment (*ibid.*: 29, 32, 35). One more complex background is made by painting a pattern of red stripes on white, which in codices occurs in different contexts and seems to represent widely understood religious notions related to the offering of blood (see Figure 7a) (Hernández Sánchez 2005: 155-157).

Signs are often combined with other motifs whose meanings reinforce a single message. These messages appear in a standardized manner and convey simplified meanings which can be grouped into thematic complexes, often linked to the specific shapes of vessels (Hernández Sánchez 2005). Such thematic complexes of signs seem to refer to central concepts in the context of Mesoamerican ritual practice. They reflect metaphoric notions, and this is a distinctive feature of this graphic system (see Mikulska 2008). These complexes may in fact be what Mikulska (2015) calls "units of meaning" and Dehouve (2009), simply as "concepts."

The most frequent thematic complex in late polychromes, what we call the Solar Band complex, is distinguished by a band, often with an orange background, in which signs such as agave thorns and bone awls, but also maize cobs, precious stones, and bird heads are alternatively painted. These are typical Mesoamerican symbols of self-sacrifice, which refer to a theme of ritual purification (Hernández Sánchez 2004a) (Figure 8). Other bands on the same vessel will often depict feathers and/or step frets. On the bottom of open shapes (plates and bowls), heads of eagles, serpents, and the offering of maize are frequently painted, but also butterflies, the offering of maize with claws, jaguars, shell-jewels (an attribute of the god Quetzalcoatl, named in early colonial documents with the Nahuatl word *ehcailoacozcatl*), and the heads of the gods Xipe or Xochiquetzal have been registered.

Another thematic complex, the complex of Powerful Lords and Deities, is characterized by a broad band on the exterior walls of censers with heads of feathered serpents (Figure 9 and 10c), along with other motifs such as stellar eyes and shell-jewels or *ehcailoacozcatl*. These paintings seem to refer to Quetzalcoatl in its role of *nahualli* (a powerful being capable of transforming

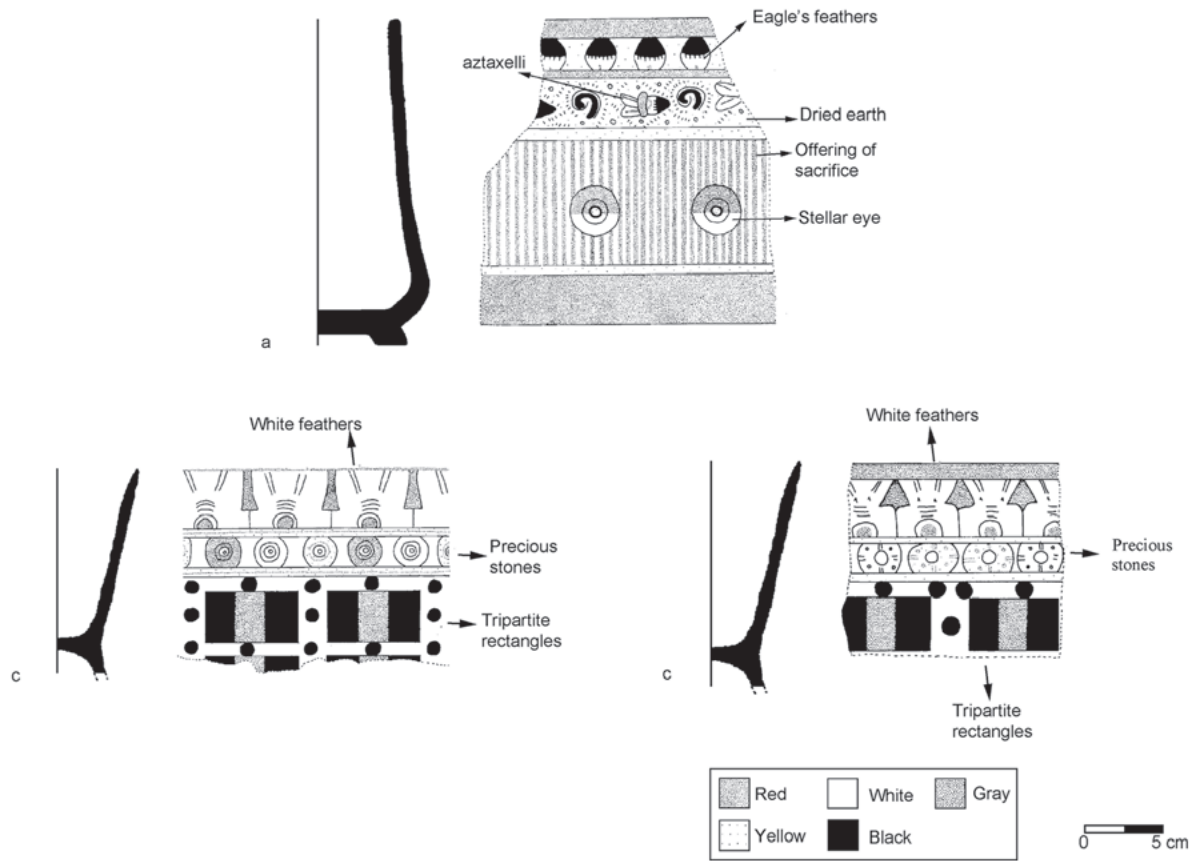


Figure 7. Thematic complexes on codex-style vessels from Cholula:
 a) vase with the complex of Propitiating Agricultural Fertility, in Centro INAH-Puebla, without number;
 b) UA-79, in UDLAP, and c) in Museo de Sitio de Cholula, without number, vases with the complex of *Pulque*
 (drawings by G. Hernández Sánchez).

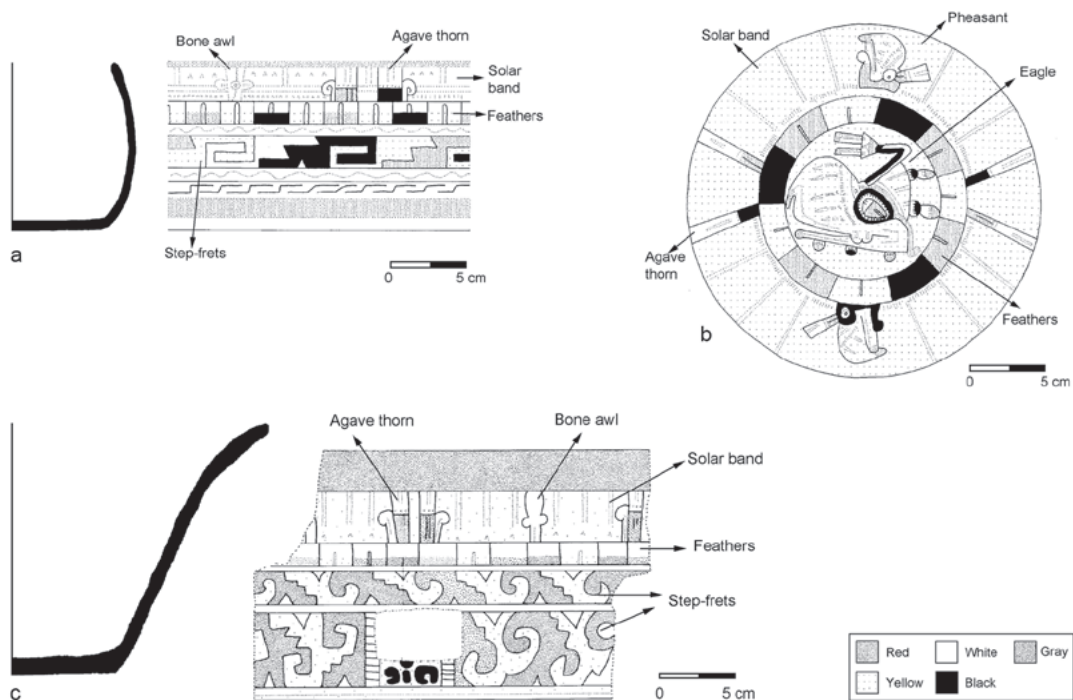


Figure 8. Codex-style vessels from Cholula with the Solar Band complex.
 Place of deposit: UDLAP, a) UA-91; Centro INAH-Puebla, b) 10-497092, c) without number
 (drawings by G. Hernández Sánchez).

into other beings, with powers of protection and forewarning of dangers) in a sphere of light and sun due to the orange background.



Figure 9. Censer with the Complex of Powerful Lords and Deities (photo by G. Hernández Sánchez, courtesy of Centro INAH-Puebla, without number).

A third thematic complex, called the complex of Vessels for *Pulque*, presents as a red rim with white feathers similar to the *aztatzontli*, also a Nahuatl word from early colonial documents that names the crown of feathers of the Gods of *pulque*, which is also present on pots of *pulque* painted in the codices (Figure 7b-c). This band goes with another band with tripartite rectangles of two or three colors, which are much the same as the facial paintings on the cheeks of Xochipilli, Macuilxochitl, Tonacatecuhtli, and monkeys, who are beings of fertility and sustenance and are also often associated with *pulque*. This may be logical if the content of these vases was also *pulque*.

Within the thematic complex of Flowers, which is related to beauty, a few vessels appear that have white flowers connected with volutes in white, red, and black, similar to speech scrolls painted in the codices (Figure 11a). This may represent a well-known Mesoamerican diphrasism, translated as “the flower, the song,” which stands for poetry (León Portilla 1970: 75). Diphrasisms, together with repetitions and parallelisms of ideas, are rhetorical devices used for ceremonial and formal occasions in Mesoamerica, which suggests that the messages painted on the vessels were constructed using the distinctive poetic style of such contexts.

Another digraphism was identified in the thematic complex of Warfare. Here, some censers show two crossed arrows inserted into an eagle feather, occasionally alternating with red shields (Figure 11b). Together, these signs make the digraphism “the shield, the arrows,” which stands for war and bravery. This thematic complex also includes bands with signs of arrows (Figure 10b), mirrors, jaguars, eagle feathers, and smoke scrolls.

Another thematic complex, named Worship of Ancestors, appears in goblets and censers. It is defined by a band on the vessel’s rim with black vertical stripes on a white background, which is interpreted as symbol of one of the attributes of Tezcatlipoca (Hernández Sánchez 2010). Some vessels have a band in orange and red dots, which indicate flayed skin (Figure 10a). A broader band on the middle part of the vessel shows signs associated with death, such as agave thorns, dislocated eyes, stellar eyes, knives, lungs, skulls, hands, hearts, vertebras, feathers, and crossed bones (Hernández Sánchez 2005).

A few other vessels are grouped into additional thematic complexes, all related to ceremonies (for a detailed description of all thematic complexes, see Hernández Sánchez 2005). The complex of Propitiating Agricultural Fertility is distinguished by signs of heron feathers (in Nahuatl, *aztaxelli*), patterns of diamonds indicating dried earth, stripes on white as a symbol of the gods Mixcoatl and Tlahuizcalpantecuhtli, and stellar eyes (Figure 7a). From the complex of Darkness, there are examples of goblets which have a black band with the faces of the gods Cinteotl and Xochipilli each coming out of the maw of a serpent (Figure 10d-e and 12) or rims with animated knives, and censers featuring the face of a scorpion, shields with jaguar skins and precious stones, jewel-shells or *ehcailoacozcatl* of Quetzalcoatl, and stellar eyes.

No calendrical dates, toponyms, nor personal names were identified, which differentiates these examples from Mixtec codices and stresses the ritual and divinatory content of the messages conveyed, closer to the themes of the Borgia Group codices. Nevertheless, there were representations of personifications of gods present. It seems, however, that gods were mentioned, but in a metaphorical and simplified manner by means of their attributes. For example, the shell-jewels (*ehcailoacozcatl*) stand for Quetzalcoatl, or the facial painting tripartite rectangles stand for Xochipilli or related gods. In general, the codification of meanings is simple, using elements that were easy to recognize and understand, even if today we are not able to identify all signs. The texts are short and clearly repetitive.

TRANSFORMATIONS OF POLYCHROME CERAMICS IN CHOLULA

A vigorous tradition of painted vessels began in Cholula in the Early Postclassic period and continued until the Spanish Invasion. Cholula ceramics gained regional fame as fine objects, to the extent that, by the Late Postclassic, they were considered to be worthy of rulers, even being mentioned as part of the luxurious serving ware at the Aztec ruler Montezuma’s table (Díaz del Castillo 1980: 167). Regardless of the lack of a detailed analysis on the beginning of this polychrome tradition, our investigations of the middle and late vessels

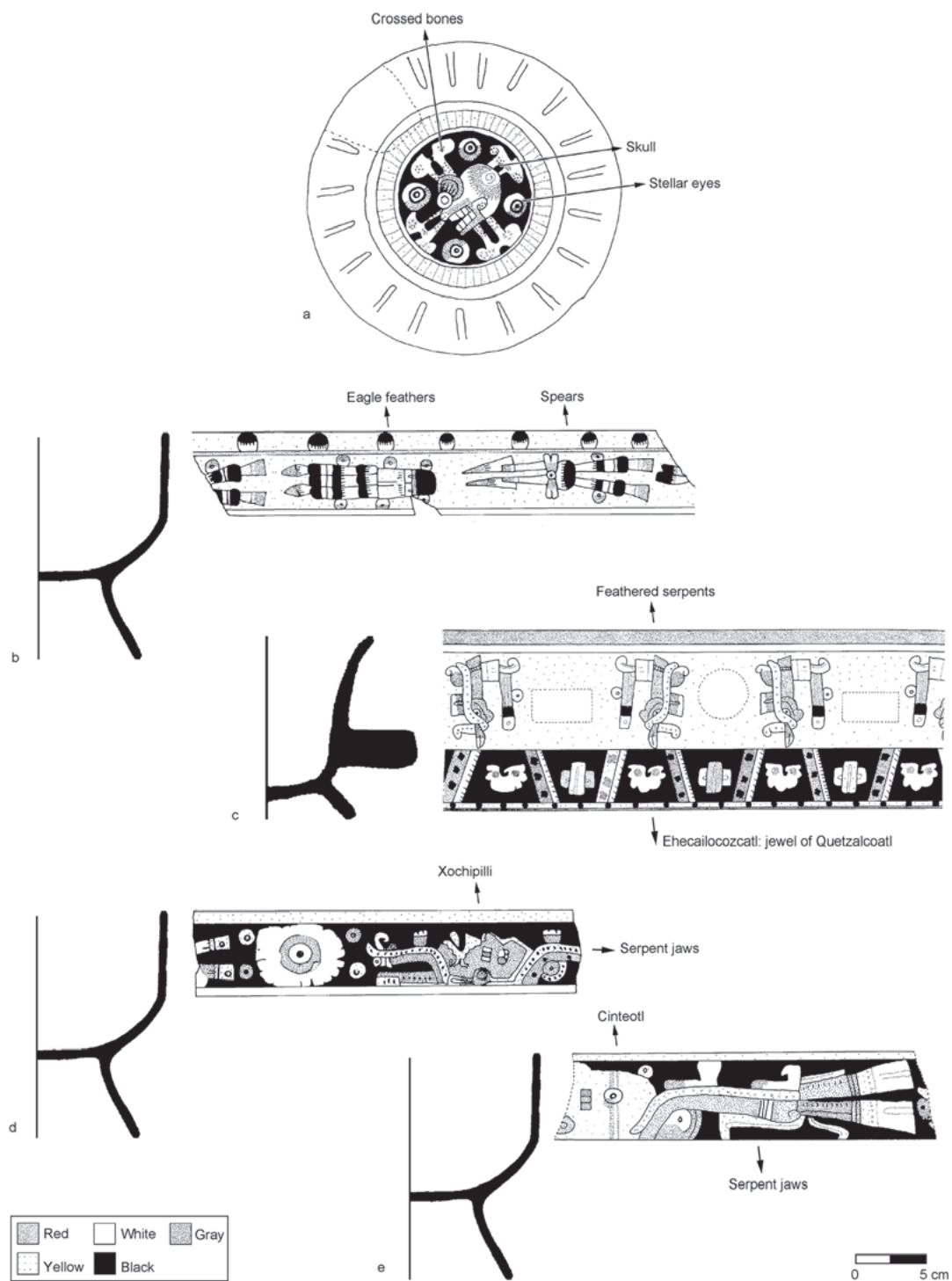


Figure 10. Thematic complexes on codex-style vessels from Cholula:
 a) censer with the complex of Worship of Ancestors, in Centro INAH-Puebla, 10-201713;
 b) goblet with the complex of Warfare, in UDLAP, without number;
 c) censer with the complex of Powerful Lords and Deities, in Centro INAH-Puebla, 10-497069;
 d) UA-79sp, e) without number, goblets with the complex of Darkness, in UDLAP
 (drawings by G. Hernández Sánchez).

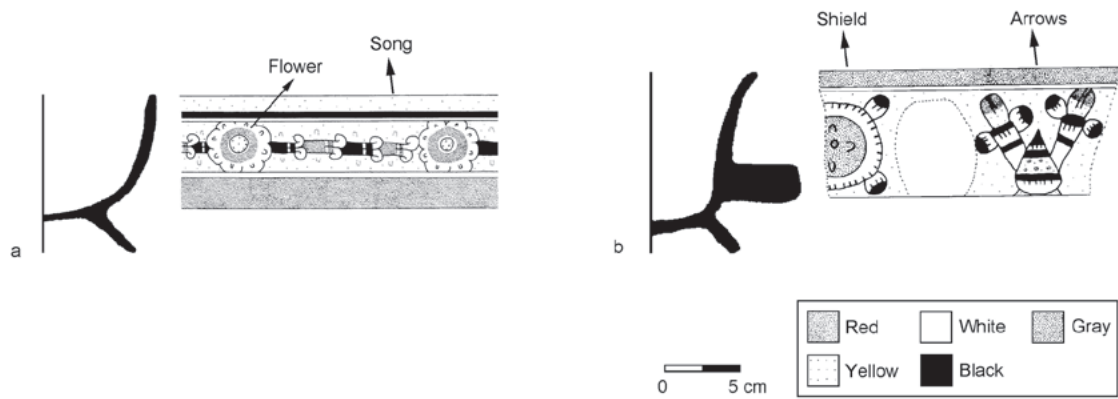


Figure 11. Diphrastic kennings represented on codex-style vessels from Cholula: a) goblet with the pairing “the flower, the song,” in Centro INAH-Puebla, 10-497579; b) censer with the pairing “the shield, the arrows,” in UDLAP, without number (drawings by G. Hernández Sánchez).



Figure 12. Goblet with the complex of Darkness (photo by G. Hernández Sánchez, courtesy of Centro INAH-Puebla, 10-280032).

of Cholula show that late vessels were in several aspects different to earlier vessels.

First, later vessels incorporated a wider repertory of forms than middle vessels. The fewer forms represented in the middle phase suggests that polychromes were designed mainly as a serving ware, somewhat for individual consumption of food and remarkably not for liquids (drinks). In comparison, the late codex-style vessels were designed for a broader range of uses. A few forms were meant for particular ritual uses, as is the case for the censers and god-effigies. Even so, the majority of the vessels are serving ware, for collective serving as well as individual eating and drinking. Since they are fine objects, and are often archaeologically associated with public and high status contexts; it can therefore be suggested that they were used for special occasions as ritual and feasting wares (Hernández Sánchez 2010).

A second aspect in which middle and late vessels differ is that the later examples were of a higher quality. In

comparison to middle phase decorated ceramics, codex-style vessels are clearly distinguished as fine objects. They were carefully manufactured, had a glossy appearance, and complex decoration. This suggests that, in the last part of the Postclassic period, ritual and feasting involved more elaborate serving vessels. The aesthetic preferences of potters and users changed, because ceremonies, in which ritual and feasting were involved, became more elaborate. The appearance of specialized paraphernalia, such as censers and goblets, and the fact that the serving ware diversified, supports this idea. Ritual activities developed into more complex forms.

A third difference is that decoration on later vessels had a higher degree of standardization and was more complex. Middle vessels do have intricate signs of the Early Postclassic International Symbol Set (e.g., feathered or fire serpents, eagles, precious stones, step-frets), but the compositions are rather schematized and highly variable to each other. Furthermore, compositions in middle vessels also relate to ritual concepts; for example, the combination of birds, feather balls, and red circles as *tonalli* which may allude to blood sacrifices, and the four interlaced volutes which may be an abbreviation for ceremonial speech and offerings. However, these signs were often depicted as single elements or, when more than one appeared, they were still limited in order to create standardized clusters of signs referring to a particular concept.

In contrast, in late codex-style ceramics we can often see particular vessel shapes associated to groups of standardized signs. Some groups of signs were simple but others quite elaborate, and they formed thematic complexes referring to well-known concepts of Mesoamerican worldview related to ceremonial activities and clear ritual and religious symbolisms. Upon late Cholulan vessels, the most frequent complexes were those we referred to as “Solar Band complex,” with signs of birds, agave thorns, and bone awls, “Eagle and Sun complex,” with signs of eagles, and feathers, “complex of Worship of Ancestors,” with signs of skulls, shrouds of the death,

bones, and attributes of Tezcatlipoca, and “complex of Vessels of *Pulque*,” with white feathers and designs of facial painting of gods of *pulque*.

More importantly, these complexes in late vessels comply more closely with some of the operative principles that take part on codex writing, as analyzed by Mikulska (2015). Notwithstanding, on both middle and late vessels the iconic principle is well seen on both sets of signs, which means that their meaning goes in relation to what they represent visually. However, as mentioned before, the iconicity on late vessels presents a higher level of standardization and there are more indications of employing an abstraction of reality—metaphoric constructions—, for example, concentric circles that stand for stars or skulls referring to ancestors

In regards to the notational principle, late vessels show remarkable advances. For instance, although Middle Postclassic decoration is often not random (i.e., well distributed to evenly cover the space of exterior walls and rims), the signs on Late Postclassic vessels clearly became systematized, and were arranged on the vessels following a particular organization of space which made the vessel a canvas to depict (write and paint) this graphic system. This use of space, as in the codices, was arranged mainly in bands whose size, either wide or narrow, discriminated between more and less important signs. For example, Late Postclassic vessels usually present one band as larger than the others in which signs may refer to rituals of purification, agricultural fertility, or cult of ancestors, and together with their respective smaller bands, for example, showing flowers for beauty, step frets for nobility, and feathers or beads for luxury, qualify and build on the message conveyed by the larger band (Hernández Sánchez 2005). This differentiation is not seen in middle vessels, where shapes have fewer bands, usually one with the continuation of one motif (e.g., straight lines, feather balls, step-frets, geometric forms) or small bands are often unicolor. These painted elements seem to be more of a decorative and embellishment feature, whereas in late pieces, the “accessory bands,” in which for example agave thorns and bone awls appeared were painted in order to convey concrete messages, like sacrifice. In addition, as with several pages of codices, late vessels also make use of arrangement of signs in a radiating arrangement, depicting large signs on the center of the bottom of plates and bowls with bands of signs around them on the rims. This feature also appears in some middle pieces (Silvia and Albina types), but such organization is not systematic nor does it present signs on the rims to bolster significance. The exception might be Albina plates that feature the figure of an entertainer with speech volutes, which do show a standardization of painting and signs and therefore is the closest example that we have to the Late Postclassic radiating use of space.

The semasiographic principle also operates on late polychromes, best exemplified by the thematic complexes.

This principle makes use of particular signs, meanings and arrangements in order to produce oral speech (however, not in a one-to-one relation to spoken words). In middle polychromes, signs seem to simply cover the space available inside bands, which are most of the time very few in number; in fact most of the time it is only one. In contrast, in late polychromes, the signs in the bands appear either evenly repeated in sequence, in significant numbers (3 or 4) or in pairs (Hernández Sánchez 2005). In fact, these signs could be understood as metonymic series described in prayers of Mesoamerican languages by Dehouve (2009), or the communicative accumulation in codices identified by Mikulska (2010, 2015). Regardless of the name, either number of signs, metonymic series or communicative accumulation, it reflects figures of speech such as repetitions, parallelisms, redundancy and diphrasisms which are common in Mesoamerican ceremonial languages (Dehouve 2009; Hernández Sánchez 2010; Mikulska 2015). This chain of elements, composed of things, beings, attributes or actions, work and connect to each other through metonymy and metaphor to define a (bigger) concept, which for Mikulska is a unit of meaning, in our case, a thematic complex. Yet, unlike prayers or even codices, late Cholulan polychromes show a small number of signs on the bands which may be a case of reduction, i.e., abbreviating the whole series and still alluding to one particular concept (Mikulska 2010) or simply the representation of shorter and simple messages (Hernández Sánchez 2005). They may have worked as mnemonic tools for (re)creating whole discourses which then depended on the skills and talent of the speaker (priest). Similarly to what Mikulska (2015) has stated regarding the Borgia Group graphic communication system, this may have worked as a repository for ceremonial discourse or invocation. Other examples for seriality of signs which reflect ritual action and speech could be found on the murals of Ocotelulco and Tizatlan and the Stone of Motecuhzoma Ilhuicamina (Boone and Collins 2013).

The presence of signs that represent objects and concepts but actions only rarely suggests that they may depict religious litanies (Hernández Sánchez 2005). Litanies are highly repetitive discourses, where the qualities of the deity are named (in the form of nouns and adjectives with no verbs, e.g., beauty, nobility, luxury) along with the petitions being asked for. They are rather a poor speech in regards to oral grammar, but rich in metaphors and titles. Some of the messages on the vessels give the impression of naming the attributes of gods, by proximity and analogy, which is also a common kenning of such ceremonial discourses (Jansen 1985; Jansen and Pérez Jiménez 2009; Mikulska 2015; Dehouve 2009). Similarly to Dehouve (ibid.), we think that the series of signs, either spoken or in graphic form, potentiate the efficacy of ritual and allows the creation of new metaphors and phrases, depending on the ability of the ritual specialist. Furthermore, the fact that late polychromes

lack dates, references to historical events, or sacred narratives, points to messages similar to those on the Borgia Group codices in which religion and celebration is one of their main themes. In this sense, late polychromes seem to be complementary to this genre of pictorial manuscripts in their association with ritual and perhaps also prognostication.

SOME IMPLICATIONS OF CODEX-STYLE WRITING ON POTTERY

The comparison between the Middle and Late Postclassic polychromes of Cholula shows that the decoration of late vessels had higher levels of convention and materialization. Materialization is here understood using the notion of Paul Ricœur (1981: 91), as the fixation of meaning (from discourse) onto writing (for him, *objectification* of speech). This materialization followed stylistic devices of Mesoamerican literacy and languages. That is, the use of signs whose meaning is given by what they represent, the conventional organization of the signs on the vessel space, and the accumulation of several signs to transmit a particular concept. This means that late vessels used the same iconic, notational, and semasiographic operative principles used for the writing of codices (the glottographic principle is missing on the polychromes). Such principles can be defined with the Nahuatl notion of *icuiloa*, to paint, to write. This art of painting and writing was not random and, in late vessels, clearly was done following a standard set of rules. This creative system of communication shares the same principles as many other systems of writing, for example, musical notation, mathematics, alphabetical writing, Chinese writing, etc. (Mikulska 2015).

In regards to the semasiographic principle, it is worth remarking that late vessels made use of poetic devices characteristic of the ceremonial and formal language of Mesoamerica, such as metaphors, parallelism, repetitions, and diphrastric figures. This form of writing is characteristic of codices but is not present in middle polychromes. One of its functions was to (re)create oral speech, which was, nevertheless, open for original and creative discourse (see Mikulska 2008). In fact, this openness virtue was essential in allowing the speaker to exploit creativity, plasticity, lyricality, and poetic features (Jansen 1982; López García 2007; Mikulska 2015). It seems that the late polychrome ceramics of Cholula, in spite of the simplicity of their written signs, alluded to central notions of Mesoamerican ritual and religion which permitted complex messages, and transformed the vessels into elegant repositories of speech and knowledge (or memory, in the words of Mikulska 2015: 308).

In fact, one of the essential skills of priests was the ability to speak elegantly and create these poetic figures of speech. The users of these vessels were allowed to reproduce this skill by giving some parts, mainly

concepts, of this speech (Hernández Sánchez 2005). Every time, every speech could be different and new. Therefore, the text on vessels, as with codices, are not glottic texts, and were not meant to be read but to be verbalized (Mikulska 2015: 308).

Late polychromes, different from the earlier ones, also illustrate the diphrastric notion of *in tllilli in tlapilli*, the black, the colorful, in its broader sense. Not only are the colors and outlines of signs there, but it reflects a sophisticated intellectual knowledge. Like the famous quote in Codex Florentine, those who owned it or, as we understand it, those who commanded it by creating it, were the *tlamatimine*, or wise people. In the case of ceramics, this investigation shows that there was a specialized type of potter who had the skills to create these sophisticated picturesque vessels; a kind of artisan or *tlacuilo* who possessed the *icuiloa* skills of both creating a written message and painting the vessels with such text, and perhaps even also molding and firing the pots. They needed a means to express abstract ritual concepts that are difficult to communicate effectively through the spoken word alone (Hernández Sánchez 2005). They knew, similarly to the manufacturers of the codices, the occult language that is proper for ritual and divinatory contexts. Since decoration on the vessels were not copies of passages of codices, but did employ the use of the same system to represent concepts related to the use of the vessels, the potter had to know that system. They knew the codes for ceremonial language, invocation, and auspicious expressions for respectful utterances to deities and ancestors related to the context of the use of those vessels. The users of the vessels did not necessarily need to be literate in the traditional sense in order to orally reproduce to a certain extent the displayed message. In addition, the vessels themselves, with their painted signs, reinforced the atmosphere of sacrality of rituals. They made material a ritual petition or a ceremonial respect to deities or ancestors. Unlike middle polychromes, the decoration of late vessels was not uniform, nor was it used for any type of ritual; the messages are related to specific kinds of ritual practices. They were probably used in festive contexts and banquets as well, which incorporated ritualized meals more frequently and where guests, perhaps, were invited to take *itacate*, an extra portion of this sacred food (Hernández Sánchez 2010). Furthermore, codex-style vessels attempted to portray more abstract and esoteric content. They represented media of a new level of objectification of specific ritual notions and practices that had not been seen before. Cholulan late vessels not only turned into a media for writing, but became themselves “materialized writing.” In accordance with Miller (2005), materiality became more important due to the cultivation of immateriality.

This may indicate that in Cholula, by Late Postclassic times, there were changes in the social practices of ritual. The evidence for this period in many regions of Mesoamerica indicates rapid population growth,

economic expansion and intensification, and the existence of large networks of stylistic interaction (Smith 2001: 601; Smith and Berdan 2003: 6). In this context, the Mixteca-Puebla style expanded through central and southern Mexico. In Cholula, at the moment of the Spanish arrival, the city was described as an important regional pilgrimage center, with hundreds of temples and important to religious devotion (Cortés 1945: 60; Díaz del Castillo 1980: 149, 150). Gabriel de Rojas (1985: 132), who was *corregidor* of the city in 1581 and wrote a meticulous report for the *Relaciones Geográficas*, compared Cholula to Rome or Mecca. Some accounts also tell of the importance of feasting in which large communal meals with special food, speeches, songs, and other prescribed activities played a central part, such as the banquets during the feast of Quetzalcoatl, main god of Cholula (Durán 1980: 121-122). Codex-style vessels were most probably used in such contexts.

Acknowledgments. This paper was made possible by funding received from the European Union's Framework Program for Research and Innovation "Horizon 2020" under the Marie Skłodowska-Curie Grant Agreement no. 800253. We thank the following institutions that let us observe and analyze vessels in their depots: Department of Anthropology of Universidad de las Américas-Puebla, Museo de la Ciudad de Cholula en la Casa del Caballero Águila, INAH in Puebla and Tlaxcala, Museo Nacional de Antropología in Mexico City, Ethnologisches Museum in Berlin, Museum für Völkerkunde in München, Museum der Welt Kulturen in Frankfurt, British Museum, Tropenmuseum in Amsterdam, National Museum of Ethnology in Leiden and Museum für Völkerkunde in Vienna. We are grateful with Kasia Mikulska for her input which improved the last version of this paper. We thank the editorial team at *Americae* as well as the reviewers for their careful reading and valuable comments which obliged us to refine our arguments. Thanks to Sarah Keller for the English revision of this text. Araceli would also like to thank the International Institute for Research in the Humanities (IKGF), in Erlangen University, as well, as the Institute for Iberian and Ibero-American Studies, at the University of Warsaw for the facilities provided while writing this paper. Gilda would also thank Maarten Jansen and the Faculty of Archaeology of Leiden University.

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