

MEMORIES OF PRIMORDIAL WORLDS: THE CODED COSMOS ON TIWANAKU STONE CONTAINERS

MEMORIAS DEL MUNDOS PRIMORDIALES:
EL COSMOS CODIFICADO EN RECIPIENTES DE PIEDRA DE TIWANAKU

Christiane Clados* <https://orcid.org/0000-0003-3562-5505>

Abstract

This paper examines the unconventional and poorly understood application of the Tiwanaku graphic communication system, specifically the graphic configurations on low-rimmed stone containers, and their role in memory production. Studies in the anthropology of memory suggest that images are a substantial part of memory production. In approaching the role of images in the production of memory in Tiwanaku society, this paper analyzes five containers dating to Tiwanaku IV and V (Ponce Sanginés 1976) —phases that approximately correspond to Tiwanaku 1 and 2 as defined by Janusek (2008). The containers evoked the presence of primordial worlds and maintained memories at the same time. In order to see what insights might be gained from different levels of visual expression an analysis is conducted based on a semiological multi-level theory and methodology. The paper examines the containers using four levels of visual expression —graphic units, their configurations, container surface, and pragmatic use — that were directly related to the production of memory. The analysis shows how Tiwanaku stone containers with low rims and their graphic inventories were used to help memorize primordial worlds. The paper also aims to refine the definition of image types within the cognitive process of memorization.

Key words: graphic communication, Tiwanaku, semiological theory and methodology, cosmology, memory production, the indigenous Americas

Resumen

Este artículo examina la aplicación poco convencional y escasamente comprendida del sistema de comunicación gráfica de Tiwanaku, específicamente las configuraciones gráficas en recipientes de piedra de bordes bajos, y su papel en la producción de la memoria. Los estudios en la antropología de la memoria sugieren que las imágenes son una parte sustancial en la producción de la memoria. Al abordar el papel de las imágenes en la producción de la memoria en la sociedad Tiwanaku, este artículo analiza cinco recipientes que datan de Tiwanaku IV y V (Ponce Sanginés 1976), fases que corresponden aproximadamente a Tiwanaku 1 y 2 según la definición de Janusek (2008). Los recipientes evocan la presencia de mundos primordiales y mantenían memorias al mismo tiempo. Con el fin de ver qué perspectivas podrían obtenerse de diferentes niveles de expresión visual, se realiza un análisis basado en una teoría y metodología semiológica multinivel. El artículo examina los recipientes utilizando cuatro niveles de expresión visual — unidades gráficas, sus configuraciones, superficie del recipiente y uso pragmático — que estaban directamente relacionados con la producción de la memoria. El análisis muestra cómo los recipientes de piedra de Tiwanaku con bordes bajos y sus inventarios gráficos se utilizaban para ayudar a memorizar mundos primordiales. El artículo también tiene como objetivo refinar la definición de tipos de imágenes dentro del proceso cognitivo de la memorización.

Palabra claves: comunicación gráfica, Tiwanaku, teoría y metodología semiológica, cosmología, producción de memoria, América indígena

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Stone Container with Low Rims

The Tiwanaku culture (approximately 500–1100 AD) thrived in the southeastern basin of Lake Titicaca, Bolivia, at elevations between 3,800 and 4,000 meters above sea level. Recognized as one of the most influential pre-Columbian societies in the Andes, Tiwanaku significantly shaped the cultural, artistic, and ideological landscape of the Middle Horizon period (circa 550–1000 AD), extending its impact across large regions of present-day Bolivia, Peru, and northern Chile (Ponce Sanginés 1976; Kolata 1993; Janusek 2004, 2008; Young-Sánchez 2004). The Tiwanaku state is renowned for its monumental architecture, sophisticated water management systems, and the production of ritual objects that reflect its religious and political authority.

Tiwanaku's monumental architecture is characterized by large stones of exceptional workmanship, with structures frequently

fitted with elaborate drainage systems. The city's sophisticated water management systems and extensive production of ritual objects underscore its religious and political authority.

A key feature of Tiwanaku's material culture is its stone craftsmanship, which includes finely carved architectural elements, monoliths, lintels, and stone containers. The latter are particularly rare in the Tiwanaku core settlement area and have been primarily studied by Carlos Ponce Sanginés (1981), Dieter Eisleb and Renate Strelow (1980), and Karen and Sergio Chávez (1985, 2018). These containers, often crafted from andesite or basalt, exhibit rectangular or cylindrical shapes, with some featuring finely incised motifs that indicate their ceremonial use (Janusek and Ohnstad 2018: 81). Chronologically, the classification of these objects aligns with Tiwanaku IV and V

* Philipps-Universität Marburg, Marburg, Alemania. Correo electrónico: clados@staff.uni-marburg.de

(Ponce Sanginés 1976), which correspond to Tiwanaku 1 and 2 in Janusek's (2008) periodization.

Among the known examples, two stone containers have a secure provenience, with one identified by Ponce Sanginés (1981) as a bowl for offerings. A third fragment, made of basalt, is housed in the Ethnologisches Museum and was undoubtedly part of a cylindrical stone vessel with slightly raised edges. Additionally, Chávez (2018: 32) documents two further rectangular containers of the same type in the Museo del Centro de Investigaciones Arqueológicas at Tiwanaku.

Studies on memory production

Innovative studies of technologies related to memory production, especially in the Isthmo-Columbian region and in the Central Andes, have focused on how societies preserve memory with graphic systems that are not considered written languages (Clados et al. 2022). The Italian anthropologist Carlo Severi (2022:166) suggests that the art of memory cannot rely only on writing, a graphic communication system that denotes sounds in written language because "the use of writing never covered anything even remotely approaching the totality of a language". The image seems to be one of the most powerful means used in the production of memory, and Severi further argues that the production of memory also can rely on an image-based cognitive process in which *intense images* either refer to other implicit images or to single or groups of words. An intense image is "an image that refers to the memory of other implicit or invisible images" (Severi, 2022:189). Intense images contain implicit knowledge, and their "reading" is based on previous knowledge.

Equally significant for studies on memory production is Galen Brokaw's (2010) approach to indigenous American polygraphy. Based on the mnemonic alphabet of Diego Valdés (1579), Brokaw refers to the use of natural signs to convey meaning in a manner similar to words. Of particular importance is Valdés' use of the term "polygraphy" ("writing in many forms"), which Brokaw defines both as the use of different types of semiotic conventions within a single medium and as the use of multiple media. The works of Loïc Vauzelle (2017), Dehouve (2021), and Katarzyna Mikulska (2015, 2020) are of particular importance to understand ritual languages based on the polysemy of images.

In the Central Andes, the documentation of different image types also has begun. The existence of pictorial narratives has been documented, for example, on ceramic vessels of Moche (Quilter 1990; Lieske 1992; Golte 1994), Nasca (Clados 2002/2003), and Tiwanaku societies (Viau-Corville 2014). Pictorial narratives are expressed through scenes or *basic themes* (Donnan 1976, 1978), which consist of a set of recurring elements or typical and coherent graphic schemas (Severi 2015). They include individuals and objects interacting, with each protagonist shown performing certain activities. On Moche fineline paintings, these scenes show

overlapping protagonists and actions and can be arranged as a series that reflect the structure of oral narratives. According to Bärbel Lieske (1992:113-126), several basic themes can be added to a bigger meaningful unit called a *scenario*. Pictorial narratives are seen as an outcome of a well-established oral tradition and are to be considered as key elements in the formation of shared overarching social memory (Jackson 2008). Tiwanaku IV/1 imagery employs a unique conventionalized pictorial approach and technique. Basic configurations (Viau-Corville 2014) are composed of a central personage shown in frontal view and flanked by a set of attendants. Central personages are consistently larger than attendants, signaling higher status. There is also spatial organization evident in Tiwanaku scenes. The existence of ground lines in place of a perspective view (Clados 2009) point to the intention of Tiwanaku artists to reduce three-dimensional spaces into two-dimensional designs. Interestingly, the use of graphic formulas is also demonstrated by Severi (2022) in the pictography of the Kuna of Panama.

Recent studies have expanded interpretations beyond pictorial narratives, exploring their role in preserving oral traditions. Instead of addressing Moche fineline paintings in terms of pictorial narratives, there is a tendency to consider them as mixed systems¹ and semiotic arrangements of pictorial notation (Jackson 2008:8), following James Elkins' (1999:87) suggestion to classify images in three domains – picture, notation, and writing. In addition, the existence of other graphic elements like Framed Graphic Units (Clados 2007, 2019) is acknowledged, which, though often perceived as abstract, can refer to single words. On ceramics of the Arica culture, *figuras geométricas*—referred to in this article as Tiwanaku Framed Graphic units - make up about 37% of the total Tiwanaku image repertoire (Uribe 2004: 86). They are square or rectangular in outline, separated from each other by contour lines or different background colors, and are either 'filled' with a figurative central motif, a geometric figure, or a pattern-like internal structure, which occasionally is shown in different color schemes. They superficially resemble Inca Tocapus that appear five hundred years later, but do not follow the same logic. Some authors even define them as signs and glyphs (Posnansky 1945; Makowski 2018).

Model of analysis

To illustrate memory production related to Tiwanaku stone containers with low rims, I focus on a model that analyzes graphic communication systems in a wider framework, using a semiological multidimensional theory and methodology developed for the plural dimensions of Amerindian graphic communication systems (Clados et al. 2022). The aim is to use the model to determine the types of intense images produced at different levels of expression.

The proposed model has six analytical dimensions (Dim1-6). The first three focus on the identification of graphic units (Eco 1996;

¹ See also Gordon Whittaker's (2009) on *mixed systems*.

Elkins 1999; Jansen 1988; Panofsky (1975[1955]), their configurations, and their relation to an object's surface and the broader spatial context (Harris 1995). The fourth analytical dimension considers the cognitive processes involved in the creation of meaning and the semiotic theory of signs (Peirce 1931). The fifth and sixth analytical dimensions focus on the intersemiotic translation between sign systems (Guss 1989; Jakobson 1959; Severi 2014; Severi and Els Lagrou 2018; Vidal and colleagues 2000) and the use of graphic communication in its broader social context by analyzing the pragmatic use of objects (Bateson 1979; Martin 2006; Salomon 2001). In this analysis, the analytical dimensions 1, 2, 3, and 6 will be used to analyze the role of Tiwanaku stone containers with low rims in memory production. The study assumes that graphic units, their configurations, container surfaces and contents, and pragmatic use have their own semantic values and elicit meaning only in dialogue with each other (see Harris 1995). This means that all four dimensions stand in an explanatory relation to each other, and that the full meaning of the stone containers can only be derived from the combination of all four dimensions.

Image analysis

Analytical dimensions 1, 2: Graphic units and configurations

The focus of analytical dimension 1 and 2 is on identifying visual attributes at a first level of perception (Panofsky 1975; Jansen 1988; Eco 1996), using graphic units as a basic descriptive unit. Identifying visual attributes offers a way for researchers to understand the meaning of graphic elements and their configurations. This is particularly relevant if the original meaning of a graphic communication system (GCS) is lost, as is the case with the engravings of Tiwanaku stone containers, because there is no access to those who used them. So far, the analysis of Tiwanaku imagery focuses on what is called the Southern Andean Iconographic Series (SAIS) (Isbell et al. 2018). For Tiwanaku iconography dating to the periods IV/1 and V/2 (ca. AD 500–1100/1150) (Ponce Sanginés 1976/Janusek 2008; Janusek and Ohnstad 2018), studies on agents like the frontally depicted 'Staff Gods' and attendant orthomorphic and anthropomorphic deities depicted in profile have dominated (Baitzel and Trigo 2019; Berenguer 2000; Cook 1994; Isbell 1983; Korpisaari and Pärsinnen 2011; Makowski 2001; Trigo et al. 2018; Young-Sánchez 2004). Staff Deities have been recognized as the primary and recurring motifs of a corporate "international style" shared by the two main Middle Horizon polities, Tiwanaku in the circum-Titicaca area, and Wari in the central highlands of Peru (Isbell and Knobloch 2006; Silverman and Isbell 2008; Williams 2001). New research trends concern matters of visual perspective, representation of depth (Clados 2009), the spatial organization of the personages, and the existence of narratives in Tiwanaku imagery (Viau-Courville 2014). Works of the last two decades (Clados 2007; Rojas Silva 2008; Fonseca and colleagues 2011; Knobloch 2014; Pärsinnen 2018)

also acknowledge an early existence of Tocapu-like signs in the pre-Inca Wari and Tiwanaku cultures of the Middle Horizon, though Tiwanaku-framed motif units are discussed in detail only by a few authors (Guengerich and Janusek 2020; Makowski 2018; Posnansky 1945).

The graphic units and their configurations found on Tiwanaku stone containers with low rims show consistency with other Tiwanaku stone carvings. This allows a comparative analysis, which helps to contextualize graphic units and their configurations. Much of Tiwanaku's material culture is characterized by a graphic communication system, which appears either as the aforementioned scenes or in the form of what can be called Framed Graphic Units (Clados 2019). Like other objects done in the Tiwanaku style, stone containers with low rims are decorated with a mixture of both scenes and Framed Graphic Units.

The stone container excavated near the southwest corner of the Semi-Subterranean Temple, a place sometimes considered to be linked to ancestor rites (Kolata 2003, but see Carlos Ponce Sanginés and Alexei Vranich for alternative views on its function), portrays the most elaborate iconography (Berenguer 1998; Viau-Courville 2014) (Figure 1a-d). The exact function of the temple remains a subject of scholarly debate, but the differing interpretations do not exclude each other. For instance, the Yayamama Stela, which is executed in a pre-Tiwanaku style and buried as 'ancestor' along with the Bennett Stela, indicate ancestor rituals, which does not rule out activities related to water, astronomy, and Pachamama (Ponce Sanginés 1981; Vranich 1999). This broader ritual significance aligns with the placement of the stone container, suggesting that its use may have been connected to practices involving ancestor veneration while coexisting with other ceremonial functions. In examining the iconographic elements on this and other containers, it becomes evident that they suggest connections to primordial worlds. However, this does not necessarily imply that the supernatural beings represented in this context are ancestors. Rather, as in the Inca period, there likely existed a diverse array of practices and deities; defining these in their entirety, however, falls beyond the scope of this study.² Notably, Staff Deities exhibit some connection to the concept of ancestry as in iconography they are associated to what Smith (2012) calls generative landscapes like places of origin (*paccariscas*), which "represented human, camelid, and agricultural fertility" (Smith 2012: 19). Therefore, in the following discussion, we will refer to these entities as supernatural beings with ancestral features, acknowledging the complexity and multifaceted nature of their roles within Andean cosmology.

The container was found in the eastern half of the temple in 1960 during excavations conducted under the direction of G. Cordero Miranda and discussed by several authors (Chávez 2017; Ponce Sanginés 1981). It was made from hyalobasalt from the

² While many supernatural beings in Andean cosmology exhibit ancestral aspects, it is important to recognize that not all deities are exclusively ancestors. For instance, in the Andean worldview, entities like Pachamama (earth), Inti (sun), Tunupa (thunder, lightning, volcanoes), and Viracocha (lake, as a place of origin) are revered as divine forces intrinsic to nature and creation, embodying a broader spiritual significance beyond ancestral lineage.

southwest area near Lago de Poopó (Willey 1974). The wide edge and the outer wall are surrounded by an incised panel, and the two engravings were made by different artists, as they are executed in different styles and may even have been created at different times.

Figure 1a-d.

a) Tiwanaku stone container with low rims, Semi-Subterranean Temple, Tiwanaku. Basalt, 46.5 cm x 16.3 cm, Museo Lítico de Tiwanaku. Photo: M. Viau-Courville.



a

b) drawing of rim engraving showing water band, framed Rayed Faces, and anthropomorphic San Pedro cactus. Ponce Sanginés 1981: table 1a.



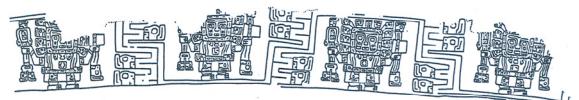
b

c) Anthropomorphic San Pedro cactus (marked in red) growing out of Rayed Face, closeup of b.



c

d) engraving of the outer wall showing water band and Staff Deity. Ponce Sanginés 1981: table 1b.



d

5 cms.

The rim engraving is composed of an undulating water band, framed Rayed Faces with plants in between, and two Framed Graphic Units on each side (Figure 2a). It follows graphic programs, parts of which can also be found on belts of monoliths like the Bennett, Ponce, Fraile, Cochamama, and Suñawa monoliths (Guengerich and Janusek 2020), and on panels of the Sun and the Moon Gates (Figure 2b). The up and down of the water band is a strong indication of a scene that involves the representation of space. In Tiwanaku imagery, the space is represented by ground lines. From a perspective view, the water band's up and down imagery can be decoded as forward and backward movement similar to a meandering river (Clados 2009). The Rayed Face with sprouting plant is part of a motif complex widespread in the Southern Andes. The head is a fertile base out of which plants are growing, a concept that assumes the generative energy of severed heads, be it the rayed head of an ancestor, human, or animal.³ Unlike the monoliths and the gate monuments, the stone container portrays a blooming San Pedro cactus (*Trichocereus pachanoi*) (Torres 2017; Guengerich and Janusek 2020)⁴, a plant known for its narcotic properties (Sharon 2000). In this version the San Pedro cactus is anthropomorphized, with branches ending in human heads crowned by headdresses in form of sprouting plants emphasizing the plant's agency and its generative power⁵ (Figure 1c). Framed Graphic Units with sprouting plants also appear on each side of the anthropomorphized cactus and attend the

3 See for example in Paracas, Nasca and Wari depictions.

4 Patricia Knobloch (2000) identifies a related trefoil element specifically as the hallucinogenic plant *Anadenanthera colubrina*.

5 Similar heads can be seen on the Bennett Monolith, as part of the arm anatomy.

Rayed Face. One is the *interlocking angular fret*⁶ (Guengerich and Janusek 2020: 31) (Figure 3a), a motif that because of its volute-like shape and strong association with drinking vessels can be identified as liquid (water, blood, *chicha*) (Clados et al. 2022). The connotation of the volute motif to liquid is additionally confirmed by the fact that it can be identified as a segment of undulating bands depicting water (Willey 1974)⁷ and liquid (Clados et al. 2022). The second Framed Graphic Unit can be identified as

nayra (Aymara), or "eye," (Guengerich and Janusek 2020:13; Smith 2012:13⁸), in lieu of Posnansky's (1945:128–130) original term, "moon house". A third cartouche-like graphic element in the form of a bicephalic serpent has emerging heads⁹, and the inserted "liquid" sign expresses generative power (Figure 3b).¹⁰ It is frequently connected to Rayed Faces, human heads, the *nayra* and "liquid" Framed Graphic Units, and staffs.

Figure 2a,b.

Rim engraving showing undulating water band (marked in red). Ponce Sanginés 1981: table 1a. b) Ponce Monolith and drawing of front and back side showing water band on the belt (marked in red) and upper tunic section with scene. Drawing C. Clados.

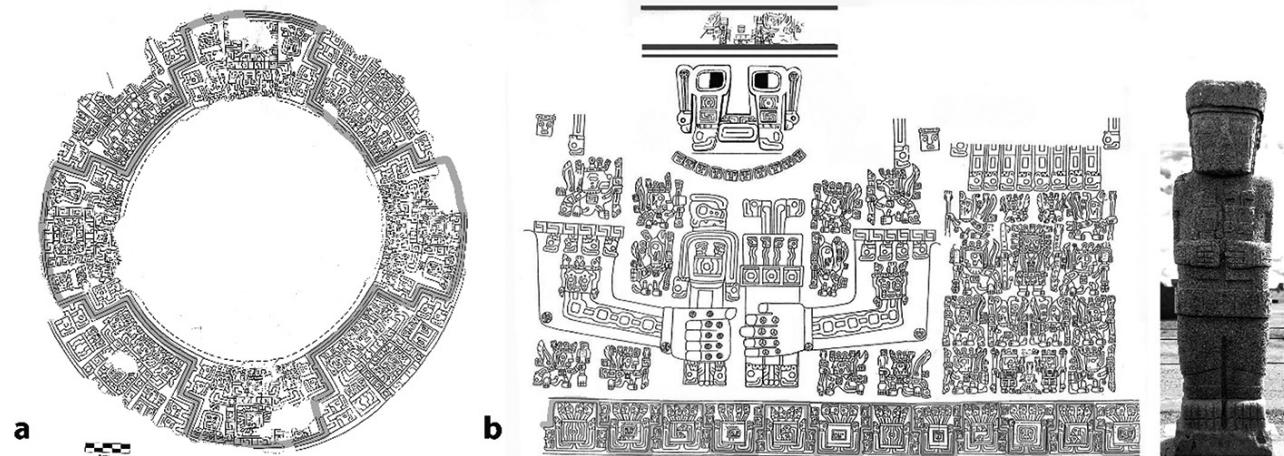
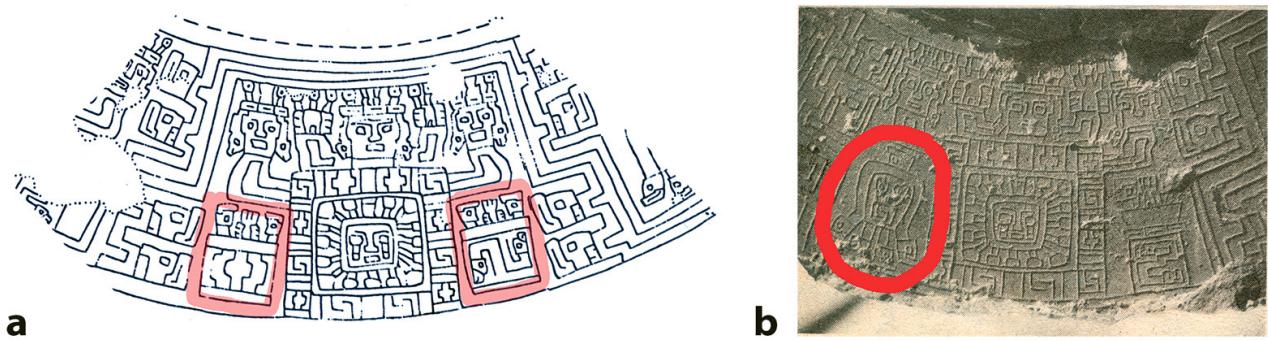


Figure. 3a,b.

Framed Graphic Units (marked in red), *nayra* and 'liquid'(left) and cartouche-like graphic element (right). Ponce Sanginés 1981: table 1a.



While the rim panel refers to a hallucinogenic plant endowed with agency, surrounded by water - likely referencing the container's content - the configuration on the outer wall depicts another version of the water band, featuring emerging 'fish'

heads (Posnansky 1945), which indicate the water's movement. A Staff Deity shown in frontal view to indicate its high status and set in between is holding two staffs – the one on the right has what seems to be a drinking goblet (*keru*) (Tarragó 2018: 407)

6 Posnansky's (1957) *sky and earth sign*.

7 The undulating band was also identified as mountains by Tom Zuidema (1991).

8 Smith (2012:23) suggests that the *nayra* stands for the mountain eye, a place of origin.

9 Interpreted by Myriam Tarragó (2018:407) as a "snuff tablet for snorting hallucinogenic powder".

10 Mathieu Viau-Corville (2014) suggests an interpretation as a snuff tray.

embedded in the staff (Figure 4). The staff on the left side can be interpreted as a coded depiction of a stalked plant with roots represented by two "fish" heads emerging downwards, and the cartouche-like graphic element representing the top of the plant. This identification is based on stylistic similarity to Wari depictions of plants with roots, and the observation that many Middle Horizon Staff Deities are holding plants.¹¹ The liquid sign at the top of the plant expresses generative power, while the drinking goblet could point to the reciprocal relation and the benevolent and productive aspects of the state, as they did in Inca times (Cummins 2002:75, 78). The deity's top ray is in form of a snail, identified by Posnansky (1945, I: 122) as a shrimp, and points to the water's nourishing aspects.

Figure 4.
Staff Deity holding staffs with cartouche-like element and *keru*. Ponce Sanginés 1981: table 1b.



Other stone containers also feature graphic configurations that focus on concepts of fertility, and plant growth. The fragment of a stone bowl (inv. no. V A 63031) purchased by the Ethnological Museum Berlin in 1931 (Clados 2009) is decorated with a finely incised water band (Figure 5). Rayed faces are interspersed, pointing to the generative energy of severed heads of supernatural beings with ancestral features.

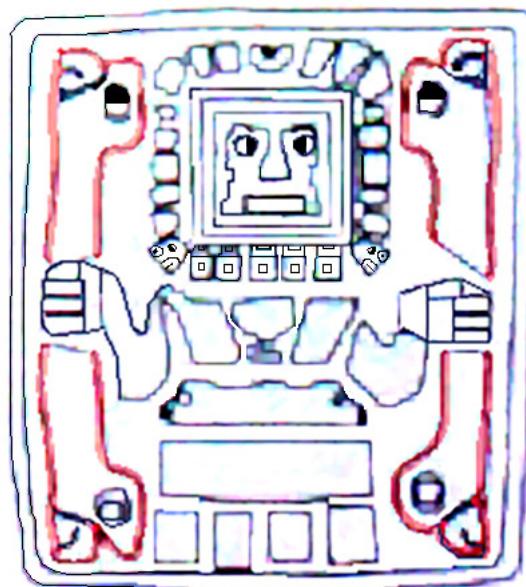
Figure 5.
Fragment V A 63031, Ethnological Museum Berlin. Water band (marked red) with Rayed Faces set in between. Photograph and drawing: C. Clados.



Chavez (2017:31, Figure 2.25) identifies two other possible stone containers for grinding and containing narcotic substances. One, only available as a stone rubbing of a rectangular stone container published by Ferdinand Anton (1972: Fig. 41) shows a Staff Deity in frontal view with staffs terminating in bird heads in profile, which appears on the bottom of the container (Figure 6). Though not the same Staff Deity as in the engraving of the stone container found by Miranda, it can be interpreted as supernatural being with ancestral features holding staffs marked by aspects of growth. A second stone container in rectangular form shows finely incised profile felines (*Wari-Willkas*) (Figure 7). Similar graphic configurations can be seen on Tiwanaku stone sculptures¹² and drinking goblets (*kerus*), which indicates their association with fermented beverages like corn beer (*chicha*) and other liquids. Not only do felines frequently appear on vessels for liquids, but are also systematically connected to the "Liquid" Framed Graphic Unit and the depiction of drops (Clados et al. 2020: 232-233). Severed feline heads, as shown on bowls, served to ensure fertility similar to those of humans and ancestors.

Notably, these containers are characterized by flat bases, similar to the wooden snuff trays found in Coyo Oriente, San Pedro de Atacama, northern Chile. The flat form of these snuff trays facilitated the use of substances like *Anadenanthera*, which were snuffed for ritual purposes. The resemblance of the flat bases of these stone containers to the snuff trays from Coyo Oriente suggests a potential functional connection.

Figure 6.
Stone rubbing of the bottom of a rectangular stone container. Staff Deity with staffs terminating in profile bird heads (marked red). Anton 1972: fig. 41.



11 See for example Lavallée 1984:134.

12 See for example Posnansky 1945, I: Fig. 139.

Figure 7.

Rectangular stone container without provenience showing finely incised profile felines (Wari-Willkas).
Chavez 2017: fig. 2.24.



Also, the last stone container features a flat base and incorporates fertility aspects in its iconography. It has a circular form and was excavated slightly west of the Bennett monolith in the Semi-Subterranean Temple. The engraving on the outer wall shows a wavy band with a series of circles above and below (Ponce Sanginés 1981: 173) (Figure 8). It is a simpler version of the water band used on stone fragment V A 63031 and the stone container found by Miranda, and is imitating the Yayamama style (ca. BC 200- 400 AD), which is considered to be one of the precursors of the Tiwanaku style. In this case the archaic style is a tool to directly express aspects of ancestry.

Figure 8.

Stone container, excavated west of the Bennett monolith in the Semi-Subterranean Temple, Tiwanaku. Undulating water band with circles above and below imitating the Yayamama style. Ponce Sanginés 1981: p. 173.



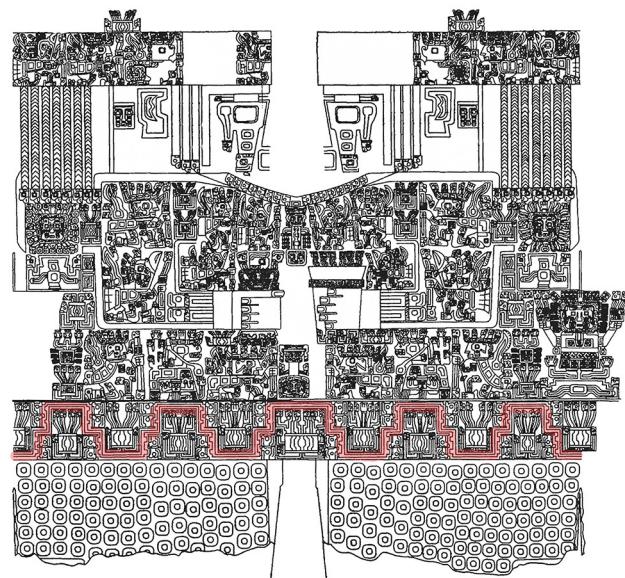
Analytical dimensions 3, 6: Surface and pragmatic use

In analytical dimension 3, the identified graphic units and their configurations relate to the object surface and to the container's content, the latter considered as a second surface. The object's surface adds another level of information, three-dimensionality and space, in which a two-dimensional depiction of the object becomes the object. In the case of the water band on stone containers with low rims and on the belts of monolithic statues, this means it is of circular shape and defines the outermost boundary of a cylindrical space. What is the meaning of this cylindrical space? What image develops when three-dimensional space is added?

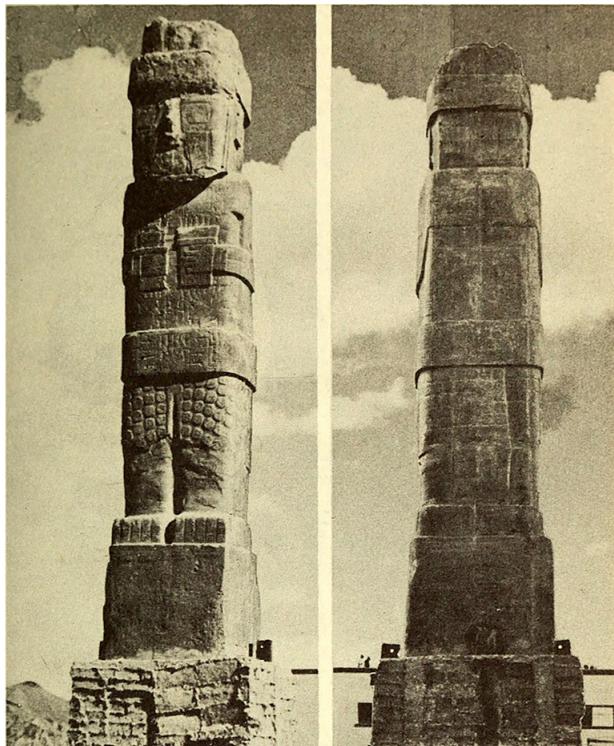
A look at the Ponce, Cochamama, and Bennett Monoliths shows that the water band on the belt of the figure is only the middle section of a *scenario*, a merger of three basic themes (Figure 9a,b). It is clearly separated from the upper part, the torso covered by a tunic, and the lower section, a skirt. Typically, the tunics depicted in the upper sections of monoliths feature a central figure flanked by attendants advancing in a procession-like manner (Viau-Corville 2014). In the case of the Bennett Monolith, this happens amidst a generative landscape composed of San Pedro cacti growing from Rayed Faces and *nayras*, and a Staff Deity standing on the mountain sign (Smith 2012; Viau-Coville 2014) raising bowls with severed heads and receiving gifts (including a bound llama) from profile attendants.

Figure 9a,b.

a) Bennett Monolith, Tiwanaku.



b) Drawing of front and back side. The water band on the belt (marked in red) functions as the middle section of a layered cosmos (scenario). In the tunic section above is a scene of a Staff Deity receiving gifts in the midst of a generative landscape. Below the water band, and in the skirt section, the underworld is marked by seeds arranged in rows. Posnansky 1945, II: figs. 113 and 117.



The tunic and upper section of the Ponce Monolith also follows the same basic configuration, while the lower skirt section shows rows of skulls and seed-like plants, which suggest a narrative referring to death and the nocturnal underworld. The arrangements in rows does not initially indicate a scene; however, skulls and seeds arranged on invisible ground lines – in the case of the Suñawa Monolith *nayra* (eye) and “Liquid” Framed Graphic Units – could function as locators for the underworld region. Upper, middle, and lower worlds recall the present-day Quechua and Aymara three world cosmos divided in *hanan pacha, kay pacha, and uku pacha* (Hocquenghem 1989; Golte 2009). Adding the three-dimensionality of the curved surface of the stone container or monoliths means that the water band becomes an object that extends into space: that is, a water world.

In the process of creating meaning, the graphic configuration interacts not only with the object surface but also with the original content of the stone container, presumably a narcotic substance

that enters into dialogue with the container in three ways. Representative of the first way is the water band of the rim panel of the cylindrical stone container excavated near the southwest corner of the Semi-Subterranean Temple, which by representing an animated San Pedro cactus in addition to water likely refers to the container’s content. Such “labelling” of the content is also visible in some *keru* paintings (Clados et al. 2022). The water band engraving on the outer wall utilizes the container’s shape to metaphorically represent a segment of the cosmos. A third type of interaction between graphic configuration and surface occurs when the content provides additional information to the graphic elements. This is evident in the rectangular stone containers, where content and representations have their own values and generate meaning through their combination. The felines and the Staff Deity are “added” to the container’s contents.

Analytical dimension 6 adds another level of information, which concerns the function and pragmatic use of the stone containers. As all containers are made of stone and substantial weight, it is unlikely that they were portable objects. Rather, they were intended to have a fixed place in a specific space, e.g., as fixed furniture in monumental architecture. The wide orifice of the shallow vessels points to immediate accessibility of the container’s content, which implies immediate consumption and excludes a function as storage vessel. Because of a gentle concave depression in the center of the sunken surface, Chavez (2018) suggests a function as a grinding slab.¹³ This interpretation is supported by Arthur Posnansky (1957: 121, pl. LXIIIIm), who noted on the stone containers found in the Semi-Subterranean Temple that “perhaps it served to grind narcotic herbs with water, after which the liquid came out through a shallow canal”¹⁴

While the wide mouth of the stone containers points to “open access” to the substance inside, the locations where some stone containers were found indicate restricted access. Two of the stone containers with low rims originated from the Semi-Subterranean Temple at Tiwanaku, a structure dedicated, among other purposes, to ancestor worship. The finely incised engravings on the fragment from the Ethnologisches Museum and the rectangular containers from the Museo del Centro de Investigaciones Arqueológicas at Tiwanaku, applied to small stone containers, suggest restricted access to the engravings. They likely could only be seen from a short distance, limiting the number of viewers. The rim panel of the stone container excavated by Miranda was visible only to those consuming the narcotic substance, while the water band on the outer wall was recognizable to people close to the users. In the case of the rectangular stone container featuring a Staff Deity depiction at its base (Figure 6), the restricted visibility may suggest communication with non-human entities of the subsoil¹⁵, indicating its use in rituals directed toward such beings.

13 Because of the the low height of the edges Chavez (2018: 29) interpreted carved slabs of the Yayamama religious tradition as antecedents for snuff trays known in later Tiwanaku times. In this morpho-technological aspect, they are particularly reminiscent of the snuff trays from Coyo Oriente of San Pedro de Atacama.

14 Eisleb (1980) had general doubts about this interpretation: “Eine Erklärung für die eigenartig reliefierten Steine hat sich bis heute nicht gefunden, abgesehen von Posnanskys zweifelhaften Theorien.” (“To date, no explanation has been found for the stones with their peculiar relief, apart from Posnansky’s dubious theories”).

15 For an interpretation of restricted visibility of basal perforations of goblets used for libation (*challadores*) see Villanueva and Korpisaari (2013:97-101).

Coding memories of primordial worlds

On Tiwanaku stone containers with low rims, primordial worlds, known as *paccariscas*, are encoded through graphic units that constitute generative imagery (Janusek and Ohnstad 2018; Smith 2012). This imagery is characterized by generative landscapes inhabited by supernatural beings with ancestral features. The main protagonists include Staff Deities holding plant staffs, *nayra* (eye), 'Liquid' Framed Graphic Units, and severed heads—Rayed Faces, human and animal heads. Graphic units such as the *nayra* and severed heads belong to a complex of "generative anatomy," composed of body parts (eye, head, llama body) that function as bases for sprouting plants. These configurations suggest that sacrifice is a precondition to ensure fertility, serving as the foundation for the creation of primordial worlds. This concept has been demonstrated by several authors (Benson and Cook 2001; Smith 2012) who discuss the generative power of ritual sacrifice in the ancient Andes and its importance to fertility.

However, primordial worlds are primarily characterized by "flourishing" landscapes, where plants and water are endowed with agency, as proposed by Gell (1998). This agency is expressed in a manner that has received little attention to date: through the use of animal heads that are part of beings, objects, and even natural phenomena. In the case of the water band, they indicate the movement of water; in plant representations, including the Rayed Faces, they signify growth and radiance.

Images as triggers for the process of memorization

Tiwanaku stone containers with low rims were used to generate different types of visual expressions, which have been called intense images (Severi 2022) because they can only be understood by those who know their larger pictorial context. Intense images trigger memories of other images and probably even words or texts.

On the graphic level, we find two categories of images. Scenes are composed of different protagonists like Staff Deities, Rayed Faces, and elements of generative landscapes, which are visualizations of narratives (Viau-Courville 2014) that served to memorize oral contents. They visualize key moments of oral texts ultimately associated with places of origin and plant growing. Looking at them surely prompted recall of corresponding text passages. Considering the use of constant graphic formulas (Severi 2014) – water bands with Staff Deities, Rayed Faces, and anthropomorphic San Pedro cactus in between – the structure of the text to be memorized might be parallel. That is, the text follows a constant verbal formulation that mirrors the structure of the image. Frontal representation of Staff Deities and Rayed Face set in between the water band indicates that not only are they supernatural beings of high status, but they are the central protagonists in the event, as visible in larger graphic configurations on the Sun Gate, and the back side of the Bennett and Ponce Monoliths.

The surface level adds three-dimensionality to the depictions, extending the two-dimensional graphic space and altering perception. In the case of the water band, the volume introduced by the surface creates a three-dimensional primordial water world, becoming a meaningful component during its use. On this level, an image is formed through the interaction between the stone container and participants, as part of a ritual performance, observed from an external perspective. This (moving) image portrays participants not merely taking narcotics from a stone container but engaging directly with the water world itself. It becomes a moving image at the moment of reenacting a mythical event. This scenario also exemplifies polygraphy (Brokaw 2010), where the graphic configurations on the stone containers extend to semiotic practices involving the containers themselves.

Water band, Staff Deity, Rayed Faces, and anthropomorphic plants are graphic units, which reoccur in larger graphic configurations like the scenes on monoliths and gates. The same graphic configurations adopt a meaning related to the object to which they are applied, and by this are an example of polysemy. The water band connects to both water as content and a water world as part of a layered cosmos. Rayed Faces connect to severed heads in the course of sacrifice and heads as containers filled with generative energy. Looking at these graphic units prompted recall of other contexts that mentally completed the image and its meaning.

This was different in the case of the Framed Graphic Units, which were embedded in staffs, part of the anatomy of the anthropomorphic San Pedro cactus and appeared as singular signs placed into landscapes. Framed Graphic Units with a central motive like the *nayra* (eye) or "liquid" likely first evoked a single word or term. However, as they are key elements of generative imagery, they also evoked other images or texts related to associated concepts. Both scenes and Framed Graphic Units probably also evoked other memories such as gestures and scents, but without more contextual data, this must be a desideratum for future research.

Closing thoughts: A Tiwanaku container concept?

The commemoration of relationships between humans and supernatural beings with ancestral features played an important role in forming group identities and in transferring properties, social roles, and other prerogatives and obligations from one generation to the next. The production of stone containers during the Tiwanaku IV and V (Tiwanaku 1 and 2) periods was a direct result of the elites' preoccupation with maintaining social memories of primordial worlds inhabited by supernatural beings with ancestral features, thereby reinforcing differential access to rights and obligations. The available contextual data and their non-portability suggest that Tiwanaku stone containers with low rims were "fixed furniture" in temples dedicated to the ancestor cult. Graphic programs and how stone containers

were used in performances created intense images, which on different levels of perception prompted people to remember other images and words.

Is there a Tiwanaku container concept? Severed (rayed) heads and body parts with sprouting plants certainly were part of this concept and perceived as containers. Belts wrapped around the human body like the ones on the monoliths were also considered containers. However, the Tiwanaku container concept was far-reaching and did not apply only to portable objects. The strongest indication that larger structures in Tiwanaku were also thought of as containers is provided by the depiction of the water band. It is not only found on stone containers and belts but on monuments like the Sun and the Moon Gates that were part of buildings¹⁶ and enclosure walls with encircling friezes. Gates and the adjacent walls were like vessels and belts: they wrapped around and contained sacred content.

One may envision that, if in use, stone containers of any kind interacted with participants of a ritual to stage a performance

of a primordial event. The contexts where these were enacted, together with the associated rituals, constituted social practices and cultural arenas critical for the production and reproduction of traditions that could contest, foment, and perpetuate a social memory. It was through these objects and rituals, ones that represented and presented primordial worlds and displayed supernaturalness, that social agents negotiated individual and corporate interests.

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