

Pre Hispanic Navigation: Iconographic Evidence in Moche Fine Line Painting

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Abstract

Navigation in pre-Hispanic times in the Andean region has been a topic of discussion among researchers for years. Different sources of information lead us to believe that at least one type of marine craft was in use and involved in long distance trade at the arrival of the Spaniards. However, the debate surrounding earlier periods is stronger due to the lack of evidence in archaeological records. Most evidence consists of iconographic or sculptural depictions on pottery; wall friezes; and, ultimately, references gathered by chroniclers – but not a single remain of any kind of vessel.

This situation has lead researchers to believe that marine crafts like the “Caballito de Totora” (“reed horse”) were just simpler tools without any further development. However, one particular type of watercraft represented in the Moche iconography apparently contradicts this idea, the “reed boat”. Moche fine line paintings portray this particular type of vessel, which differs from the traditional “reed horse” vessel, and seems to be capable of holding considerable cargo and occupants. Although the use of totora constitutes the oldest tradition for constructing rafts and boats along the coast and in the Titicaca region, unfortunately, as mentioned above, there is no evidence of such rafts or boats in the archaeological record apart from the iconographic depictions.

In spite of this, we suggest that “reed boats” represented a real boat just as other real Moche characters were represented in their iconography, such as the “Lord of Sipan” or “The Priestesses of San Jose de Moro”. Moreover the reed boats were a technological innovation, which filled particular needs to perform rituals in times of ecological distress and to procure certain sumptuary items.

The Moche

The Moche civilization developed on the north cost of Peru between 100 and 800 *Anno Domini* (A.D¹) during the Early Intermediate² period (Donnan and McClelland 1999:13). The geographical area occupied by the Moche can be divided into Northern and Southern regions, separated by the *Pampa de Paijan*. The success of the Moche society was based on controlling the rivers through the construction of a complex network of irrigation canals, which supported successful large-scale agriculture (Shimada 1994:52-56; Bawden 1996:87-92). Furthermore they managed to exploit the large resources of marine and coastal fauna combined with the use of domesticated llamas, guinea pigs and ducks (Bawden 1996:86-87; Donnan and McClelland 1999:14-15). The success of food production allowed the Moche to maintain a highly stratified and dense population, and therefore to assign large number of workers to the construction and maintenance of pyramids, palaces, temples, and irrigation canal systems (Bawden 1996:76-107; Donnan and McClelland 1999:14).

As in any other Andean society, they didn't have a writing system; instead they left a stunning artistic record of their beliefs and activities in Modelled and Painted ceramics (Bawden 1996:23; Donnan and McClelland

¹ Georgian Calendar designation that starts at year one, fromt he birth of Jesus Christ of Nazareth, with every year since added by one.

² Between 400 B.C. and 600 A.C. (Rowe 1945:265-284)

1999:15). Rafael Larco Hoyle developed Moche chronology in 1948 based on the stirrup spout bottle. He identified five phases, each thought to last around 100 to 200 years (Donnan and McClelland 1999:21). However, during the last ten years, researchers combined individual phases into three historical periods (Bawden 2004:23,116-129): Early³ (Phase I – II), Middle⁴ (Phase III – IV), and Late Moche⁵ (Phase V).

Moche potters were consummate masters of three-dimensional sculpture and also produced ceramics with low-relief depictions of figures and activities, geometrical and pictorial scenes with fine line painting (Donnan and McClelland 1999:15-17). On the other hand it seems that Moche representations had a limited representation of specific events or activities, which are referred to as themes (Donnan and McClelland 1979:5).

Phase V shows a clear change in fine line painting evolution from previous phases; the change to abstract and distorted, heavy emphasis being placed on supernatural rather than human activities, and ultimately a focus on marine creatures and environment (Donnan and McClelland 1999:178-183). We can also find innovations in layout, characters and narrative techniques as well as pottery shape (Donnan and McClelland 1999:166). Although artistic cannons are mostly the same as preceding phases, there are changes; the layout consists of half and half, spiral layout, and a new scheme using the burial theme (Donnan and McClelland 1999:182-183). It is in this context that Reed boats are more frequently depicted than in previous phases, but for a completely different function. Rather than being portrayed for fishing activities they are depicted carrying elaborately dressed individuals (Donnan and McClelland 1999:179).

Iconography versus Archaeological Evidence

Over the last two decades, archaeological evidence has been demonstrating that the Moche practiced several activities portrayed in fine line painting. They also demonstrated that dignitaries as shown in iconographic representations wore clothes and accessories (Bourget 2005:89-109; Castillo 2000:307-332; Donnan and McClelland 1999:23; Verano 2005:111-125).

In that sense Christopher Donnan and Donna McClelland (Donnan and McClelland 1979:6-10) propose the burial scene theme as four distinctive activities: burial, assembly, conch-shell transfer, and sacrifice. Double and parallel lines indicate that the activities were separate events, which did not occur at the same time but were associated with the burial of one extremely important individual and suggest that all depictions referred to the same individual (Donnan and McClelland 1979:13). The evidence found in *Huaca Rajada* is similar to the depictions (Alva 2004:101-116), but instead of one, there are at least three high status individuals buried at three different times with similar types of offerings. Moreover the caskets had a rigid structure of reinforced heavy canes wrapped in cloth, which covered the cane and the faces shown on the caskets may be hammered metal masks and attached to the cloth wrapping (Donnan and McClelland 1979:7). Moreover the goods depicted in the burial theme are frequently found in Moche and Sican graves,

³ Early Moche approximately 200 A.D. – 400 A.D.

⁴ Middle Moche approximately 400 A.D. – 600 A.D.

⁵ Late Moche approximately 600 A.D. – 800 A.D.

along with different kinds of ceramic vessels, gourd bowls filled with food and conch shells (Alva 2004:86-99).

Symbolic representation is also evident in the belongings of high status personages; they usually appear wearing gold alloy masks and are accompanied by specific emblems representing their status and role (Donnan 2008:77). The paraphernalia resembles the images contained in Moche friezes and ceramics, where it accompanies performers in the activities being depicted (Alva 2004;Donnan and Castillo 1992,1994). Specific individuals can be traced to the rituals depicted, which were acted out and performed exactly as they were depicted (Bawden 1996:25). That is the case of “the Priestess of San Jose de Moro” [Priestess] (Castillo 2000:307-332), where two female burials were found with distinctive paraphernalia corresponding to the Priestess from the Sacrifice scene, the female occupant of the reed boats (Cordy-Collins 1999:21; Donnan and McClelland 1979:7) and the net shirt personages from the burial scene (Donnan and McClelland 1979:7). Moreover the goblets found in burials, similar to those in the *San Jose de Moro*, tested positive for human blood traces (Bourget 2005:89-109). This reinforces the possibilities of actual blood rites during Moche times (Bawden 1996:154-155;Bourget 2005:89-109). In that sense, the war and sacrifice rites depicted can also be related to archaeological evidence, such as the finding of human remains in the *Huaca de la Luna*, which show evidence of decapitation, defleshing and head trauma, among other signs of violence (Bourget 2005:89-109; Verano 2005:111-125).

Reed boats Iconography⁶

Reed boats in phase V are portrayed mainly in a half and half layout, they look larger than those depicted before and appear to have cargo decks carrying people and large ceramic jars. On one half the sacrifice Priestess is portrayed, on the second half a character is portrayed with a paddle-like object (Donnan and McClelland 1999:178-179; McClelland 1999:77-78). Phase V reed boats depictions appear with arms and legs, as well as the so-called floaters, contrary to Phase IV reed boats. Some artists replace the boat with the bottle equator or use a crescent moon shape similar to the reed boat. This type of representation is called the “Crescent Boat” and seems to be a simplification of the more complex reed boat scene (McClelland 1999:77-78).

Whether it is represented in detailed reed boats carrying prisoners and jars; simply depicted on a crescent boat; participating in a complex sacrifice scene or in the Burial scene, it seems quite clear that the depiction of the Priestess, or at least a female character, is closely related to navigation scenes. Since these are all new scenes, or at least represented differently, we can presume that the boats represented in Phase V pottery may be a new type of reed vessel used in rituals and activities, perhaps as a response to changes in the ecological environment associated with the end of the Moche civilization around 800 A.D. (Donnan and McClelland 1999:184-185).

⁶ The research sample comes from drawings and photos from published sources, mostly by Christopher Donnan and Donna McClelland. The proveniences of the vessels were traced when possible, however most Moche pottery came from looted graves and therefore only a rough area of provenance is available in most cases (Donnan and McClelland 1999:17-18)

Researchers separate them into two types: Crescent Boats and Reed Boats (Donnan and McClelland 1999:179), the first group refers to vessels representing a female seated on a boat, the boat is represented by a crescent shape form or using the angled equator to insinuate the boat, this group have been excluded from research due to be a simplified representation. The second group includes all the representations without making any distinction between raft and boat (Cordy-Collins 1999:17-33).

Donnan and McClelland (1999:272) use the term *reed boats* for any representation of Moche watercraft, however these could be divided into two different types of representation, Reed Rafts and Reed Boats, which will be described as follows:

Reed Rafts

Unfortunately we were unable to gather all known iconographic examples but we believe that only a few are missing. The corpus is composed of six examples of reed rafts and looks very similar to today's "*Caballito de Totorá*". The construction seems to be made up of bundles of *Totorá*, which is tied together and fastened with simple or double ropes, all depicting an animal head on the upturned bow and stern, following a direction from left to right.

They are single manned by a human figure holding a fishing line, wearing a shirt and a headdress adorned with feathers, an animal head, or simple lines. Usually the occupant stands over a bundle of nets. All reed rafts appear associated with fish, seashells, marine mammals and sea birds, which are usually very realistic. However in some cases they portray anthropomorphised sea birds pulling the reed raft.

Reed Boats⁷

Reed boats are more frequently found in the northern area (Donnan and McClelland 2007:22), reed boats look in a similar way to the rafts but seem to use massive bundles of *totorá*, over them a simple structure, which seems to create two different decks, one for cargo and a second for occupants. The occupants shown, on each half of the boat is a Paddler holding a long stick or paddle and a female occupant usually identified as the Priestess (Donnan and McClelland 1999:178-179; Cordy-Collins 1999:17-33). The corpus of images is composed of the representation of thirty-seven reed boats, including four with the spiral narrative.

To differentiate the variety of depictions, we have identified five main attributes: Direction, Anthropomorphic characteristics, number of occupants, type of cargo and finally the ratio and number of animal heads described as follow:

- The first attribute is the direction of the scene; reed boat depictions can be presented following a direction to the left or right.
- The second attribute is the anthropomorphic characteristics; most of the depictions appear with arms or legs, and sometimes both. There is only a small number without arms or legs.
- The third attribute is the number of occupants, which may vary from one to three; only in a few cases, the number of occupants is

⁷ We believe to have most examples known, with just a few found in the last years.

more than two. The rest of the sample presents only one occupant per boat.

- The fourth attribute is the type of cargo; most cases present a cargo consisting of pottery jars or rounded objects tied with ropes, while the other type carries not only pottery jars but tied up prisoners.

- The last attribute is the ratio of animal heads on the boat.

Most reed boats show one or two animal heads in the bow and stern (# in bow / # in stern), the distribution can be mainly 1 / 2 or 2 / 1, a few exemptions appear where the distribution is 2 / 2, or 1 / 1.

Reed Boats Group Descriptions

After reviewing the corpus using these attributes, we can divide them into two main groups. With an extra third group conformed by the spiral narrative, however the boats represented on them belong to the type described on group two.

Group 1⁸: In general the depictions are represented similarly to the previous phase. The main activity of the boats is transporting people and cargo, in only one case the paddler is fishing instead, with the help of his companion. The reed boats are following a left direction and all of them show arms, usually holding a rope on the bow, and legs. Over the boat there is a single framed structure that creates two decks: the cargo deck hold prisoners tied to their necks and ceramic jars and the upper deck where the occupants stand⁹. The animal head usually has a relation of 1 / 2 and the boat itself looks similar to the reed rafts but the curve is less pronounced. All show the principal occupants, the paddler and the Priestess, accompanied by one or two more characters, and appear to be standing. The companions are anthropomorphised seabirds holding a similar object to the paddler.

Group 2¹⁰: the boats are very similar to the group ones although they have a major number of reed bundle fasteners. A new addition to the depiction is a circular net object attached to the bow and stern, with a few exceptions. All boats are travelling to the right and the cargo deck seem to be more elaborated or planned, it is represented as two double lines with a net in between, creating a more defined cargo. The cargo varies from ceramic jars; round objects suspended from the deck, probably gourd vessels, and some stylized round suspended objects. None show more than one occupant in the boats, likewise the occupants remain the same. Some changes can be seen in the priestess' attributes, which in most cases appear holding an open bag, or having an oblong object on her dress, or holding a cup. The ratio of animal heads on the boats is not relevant in this group.

Group 3¹¹: This group depicts the navigation scene in a ritual context using a spiral narrative. The boats are represented in a similar way to the group although they show four boats instead of two. The third boat holds an animal

⁸ This group is conformed of six cases.

⁹ In this group, one particular case is a bit different than the other, the ceramic jars and prisoners are close to the bow, and in the priestess boat seems to be on two different levels.

¹⁰ This group is made up of twenty-six cases.

¹¹ This group is composed of four cases.

warrior in procession with the paddler and the female occupant, a fourth boat is shown at the beginning of the narration without occupants and apparently with some kind of object over the deck. The narration starts at the bottom of the chamber, with animated objects fighting human warriors; a male figure with a crescent headdress is watching the combat. Following the spiral, a female stands in front of bundles of weapons and the animated objects approach her. Further up the spiral, a procession of three reed boats appears with the paddler, the female occupant, and an animal warrior carrying containers. The boat arrives at a structure where part of the sacrifice ceremony is being performed while an anthropomorphized club and shield holds a goblet.

Discussion

Donnan (Bawden 1996:25) has a very interesting explanation of Moche iconography using the analogy of Christian artistic symbolism. In Christian art, the fullest depictions of the crucifixion included the cross and the flanking counterparts, but specific components can be used separately in religious art to symbolize aspects of the Christian dogma without losing meaning. The religious content in Moche iconography is similar, with full narrative compositions including fully identifiable participants, which can also be represented alone or in an abbreviated portion of the larger composition. Therefore, work as "symbolic" referents to the content and meaning were embodied in the major theme and identified as such by Moche People (Bawden 1996:25).

Likewise we can interpret reed boats and crescent boats, as part of two different and new scenes in Moche depictions, the Burial Scene and the Spiral Navigation Scene Narrative, where boats played an important role transporting the Priestess who was in charge of the blood goblet. The relationship between them is based on the Priestess, and they might belong to a brotherhood therefore appearing as a group represented by the Net Shirts, figures wearing net shirts and a tiered item of attire extending down his back, appearing as a group on the burial scene (Cordy-Collins 1999:17-33). The same type of personage appears again on the reed boats and crescent boats. Other objects that are similar in boat representations are the jars that appear on the burial scene and an odd oblong object. Possibly both objects are brought to the grave by the net shirts (Donnan and McClelland 1979:7). These changes can also be seen on the reed boats occupants in Group 1, where the female occupant has the attributes of the Priestess, the feathers and clothes, and then in the Group 2 where the female occupant holds a goblet or an open bag.

The perception of the ocean may have changed into a place where prisoners and cargo are being transported (Hocquenguem 1999:65). Maritime scenes may illustrate actual rituals just like other rituals in which religious dignitaries act out the myths of Moche society in order to reaffirm social foundations and continuity (Bawden 1996:75). If these rituals were actually performed as demonstrated in the archaeological evidence (Bourget 2005:89-109; Castillo 2005:307-332; Verano 2005:111-125), the maritime scenes might therefore also leave an archaeological record. It does not seem that reed boats were involved in long distance trade for sumptuary goods.

However they may have been involved in transporting *guano*¹² from the islands offshore, a valuable resource as a fertilizer, the Chincha Islands being the largest of these islands groups, located on the southern Peruvian coast and possibly visited by the Moche (Bawden 1996:41-51; Kubler 1948:29-50); or perhaps *Spondylus Princeps*, *Strombus Galeatus*, important in rituals and ceremonies and found in archaeological contexts associated with those activities along the North Coast region (Bawden 1996:42; Shimada 1987:133-144). In spite of this, we haven't found any Moche fine line paintings depicting boats transporting such goods.

The fall of the Moche society is associated with a catastrophic *Niño*¹³ event by 800 A.D. and this might be the reason for the change of Moche depictions to marine related scenes (Donnan and McClelland 1999:184-185), and the change in the perception of the sea (Hocquenguem 1999:65), where propitiatory rituals involving the safe transport of prisoners to offshore islands and high status individuals required a different and more complex system of navigation like the reed boat.

Finally, differences between the reed boats, of Group 1 and 2, in the type of cargo they carry, could be easily explained as a simplification of a greater scene, as a referent of a greater meaning. Moreover those changes and the distortion of the representations follow the same path as Phase V pottery. Therefore the absence of evidence of an actual reed boat and the argument that only a few representations seem to depict a larger boat carrying cargo and prisoners (Makowski 2006:10-11) is not a strong argument against the existence and use of complex boats.

Conclusion

Reed boats and Crescent boats, as two representations of a single specific type of marine vessel capable of transporting cargo, prisoners and/or liquid containers, is possible. However the characteristics and activities are quite distinctive from previous representations. It is also clear that both reed boats and crescent boats are part of the same context of transporting blood offerings to/from the islands where they will be engaged in a larger ritual of sacrifice or burial.

It is also clear that most of the ceremonies, rituals and objects depicted in Moche iconography have a real counterpart that has been found over the last two decades, suggesting that reed boats could be found in the archaeological record. Secondary data (Bawden 1996:75,77,79,101-102) other sources suggests firstly, that fishing communities were particularly separate from other groups, keeping their own identity and costumes and secondly, that the reed boat tradition was related to Moche rituals and

¹²Guano is the excrement of seabirds and seals found in the offshore islands of the Peruvian coast. It is an effective fertilizer due to its high levels of phosphorus and nitrogen (Shimada 1994:45-46)

¹³ El Niño events is a frequent long-term impact event that commence in Christmas season involving drastic changes in the marine environment of the Andean coast. Is a disruption of the prevailing currents and associated climatic conditions. This change can devastate the marine life interrupting the normal flow of nutrients and microorganism that support the prolific Peruvian coastal food chain. The phenomenon also affects the land by heavy precipitations; this brings several flooding's causing widespread destruction (Bawden 1996:58).

replaced by a northern *balsa* log raft tradition as well. Therefore looking for reed boats in burials has proved to be the wrong approach to the problem. Consequently, it would be feasible to find archaeological evidence of reed boats closer to the shore and islands, either on land or underwater. In that sense it would be likely to find archaeological evidence close to the main site where the reed boat depictions come from, and also where Moche presence has been reported in offshore islands. Moreover, it would be necessary to cross-reference with information such as sea currents and possible ports to identify a possible navigational route.

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