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## **Preliminary Observations on Some Naqadian Boat Models. A Glimpse of a Discrete Ideological Process in Pre-pharaonic Arts**

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The boat is ubiquitous in Naqadian artistic productions, where it embodies various ideological concepts (Williams *et al.* 1987; Hendrickx and Eyckerman 2010: 127-133). Although this fact is well known, many questions remain open. An holistic approach that encompasses all the data available concerning the boat, both as a means of transport and as an iconographic motif, can shed some light on the process that leads it to express important ideological notions during the 4<sup>th</sup> millennium B.C.<sup>1</sup>

Because it would be impossible to consider the whole subject in these few pages, it is necessary to narrow it down to a more specific discussion. This paper presents preliminary observations concerning several boat models and suggests some possible correlations between this production and other categories of sources. Then, it briefly discusses the diachrony of the process mentioned above, which is both ideological and artistic.

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<sup>1</sup> This research was the subject of a PhD thesis conducted at the Université libre de Bruxelles under the supervision of Dr Laurent Bavay.

## 1. Boat Models from the Predynastic Period

Generally considered to be an offering to the dead, allowing the deceased to travel to and in the other world (De Morgan 1920; Petrie 1920: 8), or even to be mere toys (Vandier 1952: 149; Hayes 1965: 107 *contra* Kromer and Badawi 1980: 270), boat models are most often poorly published and badly dated. Despite some exceptions (Brunner-Traut 1975; Kromer and Badawi 1980; Vinson 1987: 162-177), they were mainly studied for the information they provide on naval architecture (Reisner 1913: xvii-xviii, 20-21, Fig. 88-90, pl.VI.4814-4816; Landström 1970: 11-25; Merriman 2011).

Among the 250 exemplars documented in the context of our PhD, 194 are in baked clay, 8 are in unbaked clay, 7 are in wood, 1 is in basketry, 30 are in ivory and 10 are in various stones. Models that have been manufactured in these last two materials are not older than Naqada III and are typical of the Early Dynastic Period. This paper focuses on some models currently kept in the Petrie Museum in London, in the Museum of Archaeology and Anthropology in Cambridge and in the Ashmolean Museum in Oxford<sup>2</sup>.

## 2. Models from the Petrie Museum: a new category of ceremonial *barque*?

UC16287<sup>3</sup> (Fig. 1) is made of baked clay. It is flat bottomed and the upper half of the hull is hollowed. The prow is strongly incurved and a horizontal element protrudes from its extremity. The stern is slightly incurved and its extremity is directed outwards. It looks like a schematic “S”. The clay is of a reddish-brown colour and the object shows some traces of exposure to the fire. UC16288<sup>4</sup> (Fig. 2) is very similar to UC16287, albeit larger and completely hollowed. Its outer surface is smooth and still covered with an ochre slip. Despite the fact that the extremity of the prow is now lost, what can still be seen of it confirms that the horizontal

<sup>2</sup> We would like to express our gratitude to P. Hedvisq (curatorial Assistant at the Petrie Museum, London), L. McNamara (assistant Keeper for Ancient Egypt and Sudan at the Ashmolean Museum, Oxford) and I. Gunn (collections Manager for the Museum of Archaeology and Anthropology, University of Cambridge) for giving us access to those models and for their kind welcome.

<sup>3</sup> ca 11,5 cm long, ca 2,5 cm wide, ca 4,5 cm high (Petrie 1920: 42, Pl. XLVII.4; Petrie 1933: 6, Fig. 16; Kromer and Badawi 1980: 263, Fig.1.3; Merriman 2011: 141.9).

<sup>4</sup> ca 24 cm long, ca 6,10 cm wide, ca 9,4 cm high (Petrie 1920: 42, Pl. LXVII.5; Petrie 1933: 6, Fig. 17; Kromer and Badawi 1980: 263, Fig. 1.4; Merriman 2011: 142.10).



Fig. 1. Model UC16287 (photo: D. Vanhulle)



Fig. 2. Model UC16288 (photo: D. Vanhulle)

feature also existed on this model. The stern is also higher than the prow and “S-shaped”. UC16289<sup>5</sup> (Fig. 3) is smaller than the previous ones and, at first sight, quite different. Its body is rounded. However, the general features are similar since one extremity is completely incurved and flattened at its apex. The stern has not survived but its base suggests that it rose vertically. Traces of exposure to fire after the original baking are also visible on this exemplar.

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<sup>5</sup> ca 8,3 cm long, ca 1,9 cm wide, ca 1,8 cm high (Petrie 1920: 42, Pl. XLVII.6; Kromer and Badawi 1980: 263, Fig.1.2; Merriman 2011: 139.2).



Fig. 3. Model UC16289 (photo: D. Vanhulle)

These models are generally identified as papyrus rafts since such a curvature of their extremities cannot be obtained with wooden planks (Berger 1992: 108; Merriman 2011: 31-34). The fact that two of them are hollowed, thus presenting lateral fenders, does not preclude this interpretation: “rafts can have sides so long as flotation was due to a raft bottom, and the sides were only fenders and had no hydraulic pressure” (Merriman 2011: 10-11, paraphrasing Petrie 1933: 5). Almost all models are flat bottomed, probably in order to enable them to stand by themselves (Merriman 2011: 22). This feature is therefore not a strong indicator of whether a model is the reproduction of a wooden boat<sup>6</sup> or a papyrus raft.

A peculiar model, kept in Berlin (ÄMP 13834, Fig. 4) and thought to be from Naqada (Grimm and Schoske 2000: 28, n°25), shows similar characteristics. It has two perforations, one near each extremity. A vaulted cabin rests directly on the gunwales and a square window has been cut into one of its sides. Three ithyphallic figures stand in the boat, two at the front looking forward and one at the back, perhaps originally holding a steering oar. A cracked cream plaster covers the model and the gunwale is underlined in red. Four transversal red lines have been

<sup>6</sup> It is now beyond any doubt that the Naqadian sickle-shaped boat, which was flat bottomed, was a wooden structure (Landström 1970: 19-22, Fig. 57-59; Ward 2006; Tristant *et al.* 2014).

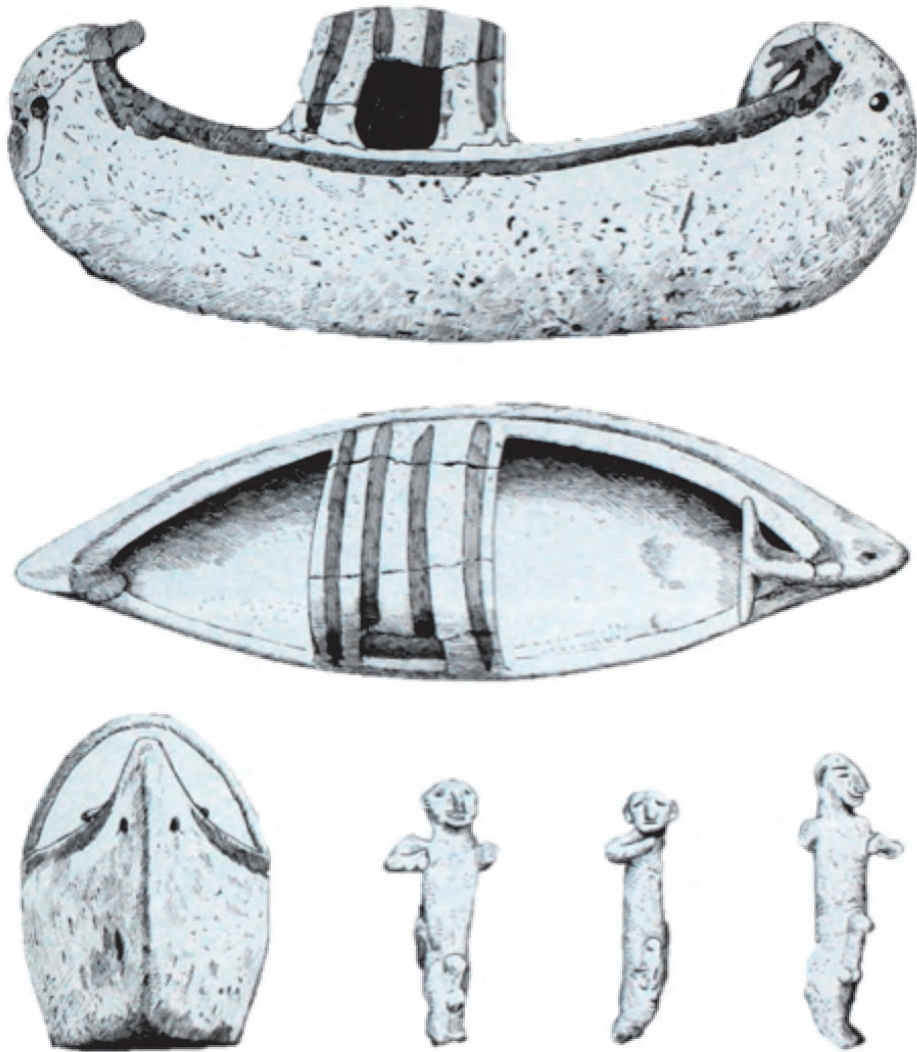


Fig. 4. Model ÄMP 13834 (after Göttlicher 1971: pl. VIII)

painted on the outer top of the cabin. This plaster is quite uncommon and the only exact parallel that we know of is on another object kept in the Ägyptisches Museum of Berlin (n°13832/3). It shows a female figure emerging from a pot, perhaps imitating an egg (Grimm and Schoske 2000: 30, n°31). This figure is identical, from a stylistic point of view, to the three men in the model.

Although the authenticity of this model is questionable<sup>7</sup>, the red edging that underlines the gunwales is not unique<sup>8</sup> and the presence of perforations is common on Predynastic models. Moreover, some details are similar to those described above: the prow is completely incurved and the extremities of the horizontal, slightly convex, element that decorates it are in contact with the gunwales. The S-shape stern, although less obvious on this exemplar, is similar. All these observations argue in favour of the authenticity of this model.

This general typology is also characteristic of boat-shaped palettes known from the Naqada Ic to the Naqada IId period (Petrie 1921: Pl. LIV.28D, 28N, 29-31; Regner 1996: 15, n. 40). The most detailed examples show a sickle-shaped boat supporting a central cabin from which the lateral pillars are higher than the rooftop<sup>9</sup>. This kind of cabin also exists in rock art (for example: Berger 1992: Fig.1-2, 5.3-7, 9.26, 10.38, 10.44, 12.265; Morrow *et al.* 2000: 170.E; Rohl 2000: 19.6, 19.9) and is particularly linked with incurved sickle-shaped boats and incurved square boats. The prow of these two categories of barque is decorated with fronds (Lankester 2013: 71, Fig. 5.1). Despite the fact that these palettes are schematic, the prow and stern recall those of the models. Indeed, the prow is rounded and completely incurved while the other extremity shows a small appendage that could well represent a flattened “S-shaped” stern.

Boat engravings from the Eastern Desert are numerous and often compared with boat images depicted on other media (Rohl 2000: 4-8; Judd 2009: 79-81; Lankester 2013: 11-15). However, rock art has its own specificities and exact parallels are rare (Wilkinson 2003: 69). Incurved sickle-shaped boats exist in every wadis of the Eastern Desert, but they are particularly numerous in Wadi Barramiya and Wadi Abbad (Weigall 1909: 156-159, 162, Pl. XXIX-XXX ; Winkler 1938: Pl. XV, XXXV.26; Judd 2009: 109-111; Lankester 2013: 74-84, 100-107, tab. 5.10; Rohl 2000: 18.5-6, 19.16, 20.16-17, 21.9, 21.16-17, 22.5; Morrow *et al.* 2010: 32.G, 70.B, 169.A, 170.E, 171.I, 173.B, 174.E-F, 223.F). Four examples of this type of boat also exist in the Theban Western Desert (Darnell 2011: 1154, 1158, Fig. 2, 5),

<sup>7</sup> We are thankful to R. Kuhn (Ägyptisches Museum und Papyrussammlung, Berlin) for the fruitful discussions that we had about this object.

<sup>8</sup> Archaeological and Anthropological Museum of Cambridge: Z 17094; Phoebe Apperson Hearst Museum of Art, Berkeley: 6-4927; Petrie Museum, London: UC10805; Ashmolean Museum, Oxford: AMO 1895.609; University of Pennsylvania Museum, Philadelphia: E.1436 ; Musée des antiquités nationales, Saint-Germain-en-Laye: MAN 77.754.

<sup>9</sup> For example, Metropolitan Museum of Art, New York: 07.228.156; the Oriental Institute Museum, Chicago: OIM E11054; the Brooklyn Museum: 07.447.613; Musée des antiquités nationales, Saint-Germain-en-Laye: n°77.719r.

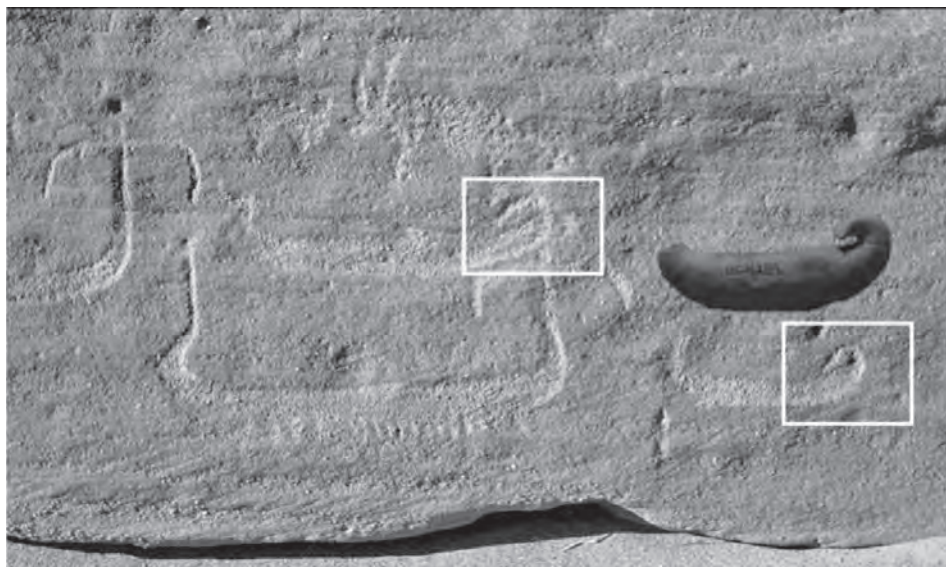


Figure 5. Boat engravings from Wadi Abu Mu Awwad (after MORROW *et al.* 2010: 121.E; photo: Geoff Phillipson)

while one can be seen in Wadi el-Hôl (Winkler 1939: 17, Pl. XV.1), one in Wadi Rizeigat (Winkler 1939: 17, Pl. XV.2) and four others in a small wadi of the West Bank, around 5 km north of Aswan (Winkler 1939: 18, Pl. XVII.1-3).

Their sterns present the S-shape configuration while their prows are vertical or slightly incurved. Two fringes, generally associated with fronds or horns, protrude from the summit of the prow. It could be argued that this motif corresponds to the horizontal feature identified on the models. The way the prow is depicted in rock art, more vertical than incurved and with the fronds showed frontally, may be the result of an artistic convention. Two engravings can even be directly related to the models described above: one in Wadi Umm Salam shows the horizontal element fixed to an incurved prow, the other lies in Wadi Abu Mu Awwad and shows a boat identical to UC16289 (Morrow *et al.* 2010: 62.B, 121.E; Fig. 5).

Three frond boats can be seen at HK61 in Hierakonpolis (Berger 1992: Fig. 1-2; Hardtke 2012: Fig. 3). Their prow shows a triangular outgrowth from which emerge two fronds. The visual similarity with horns, added to the frequent association of bovids with these boats from Hierakonpolis, suggests that prows were decorated with an animal head (Berger 1992: 109). This downward curvature recalls indeed the horns of the “bull’s head” amulets (Petrie 1914: 44, Pl. XXXVIII.212a-m; Hen-



Fig. 6. Boat engraving from Wadi Qash compared with a clay box from el-Amrah (photo: Janet and Paul Robinson)

drickx 2002: 285-287). However, recent works are challenging this interpretation: “these protrusions could also be explained in other ways, such as by branches or palm fronds as shown on some Naqada II vessel” (Hardtke 2012: 337).

Hierakonpolis engravings bear similarities with C-Ware decorations and may occupy a date range of Naqada I and Naqada IIB (Hardtke 2013: 112). Arguably, this chronological range can be narrowed down, as desert sites in Hierakonpolis do not seem to be older than Naqada IC<sup>10</sup>. It fits with the first appearances of the boat in iconography, notably on a well-known C-Ware plate (Egyptian Museum, Cairo: CG2076; Graff 2009: 218, n°74) and on a Nagada IC-IIA clay box from el-Amrah (Ashmolean Museum, Oxford: E.2816; Payne 2000: 79-80, Fig. 32.600).

<sup>10</sup> Potential traces of a Badarian occupation have been found in Nekhen (Hoffman et al. 1986: 180, fig. 2), but the area of HK61, HK64 and the nearby elite necropolis HK6 do not seem to be older than Naqada IC (Hardtke 2013: 112).



The raft visible on this box is similar to both the models and most of the frond boats known in rock art (Fig. 6).

The peculiar prow of the models mentioned above looks like the extremity of a papyrus bundle that is bent inward and maintained in place by a rope. In all probability, it is a light material that bends under its own weight. We tentatively propose that palm fronds and large mats that decorate the prows of the wooden sickle-shaped boats depicted on D-ware are reminiscences of the frond prows of papyrus rafts (Petrie 1920: 18-19; Aksamit 1981: 168, Fig. 29; Graff 2009: 174.N8-N9)<sup>11</sup>. It should also be mentioned that some engravings of this classical sickle-shaped boat show two protrusions at the extremity of the prow that could possibly simulate horns (for example: Huyge 2014: Fig. 2; Hendrickx *et al.* 2012: 1074, Fig. 7).

An atypical example of this category of boat can be seen on a jar kept in the British Museum (BM 36326, Graff 2009: 383, n°569; Fig. 7). It shows an S-shaped stern with a vertical elongation and an incurved prow with some kind with garlands or a mat that hang down from its summit. Next to that prow is a kind of

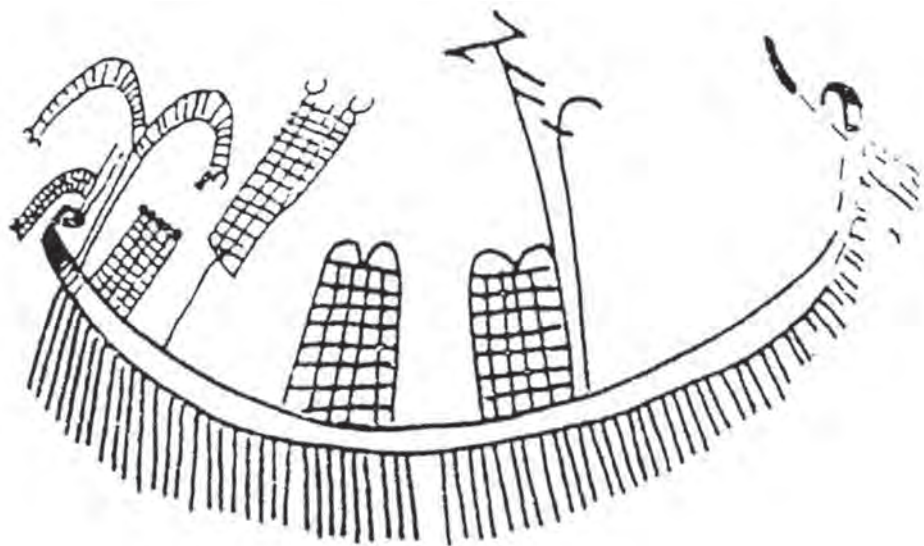


Fig. 7. Boat image on a D-ware vase (after Graff, 2009: 383, n°569)

<sup>11</sup> These palm branches have been identified as a cover for the look-out (Petrie 1901: 15-16; Boreux 1925: 16, 33) or as proto-sails (Petrie 1920: 21; Thomas 1923: 97; Le Baron Bowen 1960). J. Aksamit challenged these theories (Aksamit 1981: 160). It could merely be a symbolic and apotropaic vegetal adornment, as seen in other maritime, riverine or coastal cultures around the world (Hornell 1945).



Fig. 8. Fragment of a stone vase with boat depictions (after Scharff 1929: pl. 22.109)

tree from which protrude two large fringes that hang down with curves similar to those seen on frond boats. It is interesting to note that the Eastern Desert rock art offers comparisons: the frond of some sickle-shaped boat is depicted as an inverted “U” while their stern is incurved and then vertically elongated (Morrow *et al.* 2010: 120.B-D). This shape of the stern finds a parallel in a Naqada IID stone vase fragment (Grimm and Schoske 2000: 37, n°47; Fig. 8). All these details constitute typo-chronological clues, testifying to the evolution of this very specific raft. Because Hierakonpolis exemplars show this kind of vertical elongation of the stern, nothing precludes that they belong to the Naqada IIC-D period.

We are thus perhaps facing a specific type of barque that appear on every Naqadian artistic media between Naqada IC and Naqada IID. Its typology evolves but the papyriform<sup>12</sup> nature of the barque, the presence of fronds and the S-shape stern remain characteristic. Minor differences between each representation can potentially be explained by geographical and/or chronological variations. The function of this boat is difficult to assess. Because of its longevity, the nature of

<sup>12</sup> The term papyriform refers to a wooden boat that imitates a papyrus raft (Boreux 1925: 235-421; Landström 1970: 22-25).

the media on which it appears and their contexts of use, a ceremonial role seems likely. This means that, despite the emergence of wooden boats, papyrus rafts remained the archetype of the divine and ritual barque. This is still true during the Pharaonic period, since the Pyramid Texts mention the “Great Reed-Float” on which sails the god Ra and the defunct king (Erman 1893: 79-82; Breasted 1917: 174-176; Boreux 1925: 5).

### 3. A model in the Museum of Archaeology and Anthropology (University of Cambridge) and the “Decorated-ware models” category

Model Z 17094 is made of baked clay (Fig. 9)<sup>13</sup>. It is sickle-shaped and hollowed. As it is crafted in a cream fabric and decorated with ochre lines, it strongly recalls D-ware productions. The extremities are slightly upraised and cylindrical. One of them, most probably the stern, is higher than the other<sup>14</sup>. Vertical lines are painted in ochre on the external surface: seven on one side, around twelve on the other. The gunwales, along with the prow and the stern, are roughly underlined in ochre. Several traces of the colour, most probably unintentional, are visible on the inner surface. Two inventory marks can also be seen on the object: H.526 is inscribed in black on the bottom while A.52B can be read in red ink on one side. It appears that A.52B is an abortive numbering system applied by the museum,



Fig. 9. Model Z 17094 (photo: D. Vanhulle)

<sup>13</sup> ca 28,5 cm long, ca 11,2 cm wide, ca 6,6 cm high.

<sup>14</sup> The higher extremity is generally the stern (Boreux 1925: 55).

possibly by F.W. Green<sup>15</sup>, at an unknown date. The model, which is said to come from Kom el-Ahmar, has been offered to the museum by the Egyptian Research Account in 1899. The date is consistent with the works of F.W. Green at the site: „during the winter of 1897-8 excavations were conducted for the Egyptian Research Account at Kom el Ahmar (...) The share of the objects found that was brought to England was exhibited at University College in July, 1898. Mr. Green continued the digging in the winter of 1898-9, and a second exhibition was held in the following summer” (Quibell and Green 1902: 24).

At least six models can be related to the D-ware ceramic production of Naqada IIC-D<sup>16</sup>. They share the same characteristics and their pro-pinquity with the sickle-shaped boat is obvious. The red lines painted on them are generally thought to describe the ropes that tied papyrus bundles (Petrie and Quibell 1896: 25, Pl. XXXVI.80-81a-b; Petrie 1933: 4-5, Figs. 6, 8-9; Casson 1971: 12, Fig. 7; Vinson 1994: 11). However, G. Reisner and B. Landström considered that these models were the reproduction of wooden boats (Reisner 1913: xvii-xviii; Landström 1970: 22). This association of a flat bottom with two lateral walls is indeed consistent with what we know of Predynastic wooden boat construction (Ward 2003: 21, Fig. 5.4; 2006; Tristant *et al.* 2014). Other structural details strengthen this conclusion, such as the central plank that appears in low relief at the bottom of some of these models (Vinson 1987: 167, Fig. 79; Rizkana and Seeher 1987: 47-48, Fig. 65.1, Pl. V; Steffy 1994: 273-274; Merriman 2011: 17, 208-210, n°182-185).

Two models (ÄMP 13801 and E.1436) show a red painted square at the centre of their outer hull. This square also appears on the sickle-shaped boats of the famous Painted Tomb of Hierakonpolis (Quibell and Green 1902: Pl. LXXV) while parallels can be found in Wadi Hammamat (Rohl 2000: 129.5) and at Nag el-Hamdulab (Hendrickx *et al.* 2012: 298-299). What this square depicts is still a matter of discussion. It could be the representation of the gangplank that allows access to the boat from the dock (Boreux 1925: 38), or a trapdoor situated between the cabins. Indeed, several ivory models show small depressions, either near one of their extremities or in front of their central structure<sup>17</sup>. Moreover, W. Emery

<sup>15</sup> We are deeply grateful to I. Gunn for this information.

<sup>16</sup> Petrie Museum, London: UC10805 (Merriman 2011: 152, n°37); Ashmolean Museum, Oxford: AMO 1895.609 (Payne 2000: 24, Fig. 17, n°88; Merriman 2011: 209, n°183), AMO 1895.622 (Merriman 2011: 211, n°186); University of Pennsylvania Museum, Philadelphia: E.1436 (Merriman 2011: 151, n°35); Ägyptisches Museum, Berlin: ÄMP 13801 (Merriman 2011: 208, n°182); Museum of Fine Art, Boston: 03.1381.

<sup>17</sup> Ashmolean Museum, Oxford: E.96, E.97, E.98, E.4666.

considered that the beer jars he found inside the boat grave of Mastaba S.3506 were held in “cargo holds” (Emery 1958: 38, 42).

Two of these models come from Ballas, two from Naqada and one from Abadiyeh. This is not surprising since it is generally thought that D-ware ceramics were produced in the vicinity of those particular sites (Gilbert 1999: 31-32). Their size, greater than the vast majority of Predynastic models, and their overall quality suggest that this is a prestigious production.

#### 4. The Model E.86 from the Ashmolean Museum in Oxford: a prototype of the great royal barque?

Only a few ivory models have been found in tombs (Merriman 2011: 156, 212, n°56, n°189; Tristant 2012: 32, Fig. 19). Most of them come from pre-formal (Kemp 2006: 113) temple deposits at Tell el-Farkha, Tell Ibrahim Awad, Abydos and Hierakonpolis (Dreyer 1986: 37-50, 80; Bussmann 2010: 243, 291, 337, 342, Pl. 93/Fig. 5.51-5.57, Pl. 192/Fig. 5.681). 24 models in ivory and two in stone have been discovered in the Main Deposit of Hierakonpolis. Despite their great importance, information about them has never been properly published.

E.86<sup>18</sup> is papyriform (Fig. 10). The prow is vertical while the stern is incurved. Both of them are pierced at their summit, probably for the fixation of an extension. A small transversal perforation situated at the summit of the prow allows the insertion of a small peg. On each side of the deck, a bundle that goes from the top of the prow to the top of the stern reproduces the gunwale. Although this is



Fig. 10. Model E.86 (photo: D. Vanhulle)

<sup>18</sup> We are thankful to P. Pomey for his very useful comments on this model.



Fig. 11. Guard-rails on model E.86 (photo: D. Vanhulle)



Fig. 12. Cabin door of model E.86 (photo: D. Vanhulle)

not the case for E.86, almost all ivory models have small vertical incisions regularly spaced at the emplacement of the gunwales. They probably designate the ropes that solidly tied the bundle to the plank-ing. On most of these ivory models, cross-shaped incisions are visible on the extremities and on structures such as the cabin. Such details can also be seen on the boat depicted on the Narmer Palette and on the Plover Palette (Asselbergh 1961: 336-337, Pl. 90.159).

Two guard rails or girders<sup>19</sup> flank each side of the central section of the deck (Fig. 11), which is slightly upraised. A circular hole is pierced at the extremity of this central section, near the stern. Its purpose could have been to support a mast or a pole. Immediately before the

stern are four smaller perforations arranged in a square, probably for the installation of a canopy. Between this canopy and the deck lies a shallow rectangular depression. The cabin is quite damaged but an off-centre door can still be seen (Fig. 12). Another interesting feature is the nodes sculpted along the gunwale until the top of the bow. No such nodes can be observed after the cabin nor before the girders. They are thus absent on one half of the model. Similar depictions of nodes can be observed in Early Dynastic sculpture, for example on a First Dy-

<sup>19</sup> B. Landström and A. Merriman use the terms “side shelves” to describe this feature (Landström 1970: 28, Fig. 86.6 ; Merriman 2011: 18-19, Fig. 2.40-2.41), while Ch. Ward prefers the term “stringers” (Ward 2000: 54-55, fig. 16).

nasty breccia basket from Abydos (ÄMP 17968; Grimm and Schoske 2000: 68, n°144).

E.86 shows many realistic features. This strongly suggests that such a boat has existed and that the artist that manufactured the model was familiar with it. What is very interesting is the strong relation between E.86 and the famous cedar barque of Khufu (Jenkins 1980; Lipke 1984; Mark 2009; 2011). Indeed, girders can be seen at exactly the same emplacement on Khufu's boat (Fig. 13). Towards the prow, this line of girders stops just before a small canopy supported by several thin pillars (Fig. 14). Between the gunwales and the girders, there is no decking and the thwarts (or deck beam) are apparent. A gangplank allows passengers to cross this shallow space and to reach the deck (Fig. 15). The cabin of the barque has two off-centre doors, one on each side. The front side of the model's cabin is almost completely damaged so it is impossible to ascertain the existence of a second door. Last but not least, the prow and stern of the barque are separated pieces fixed to the main structure, exactly like the now lost prow and stern of the model.



Fig. 13. Girders on Khufu's barque (photo: D. Vanhulle)



Fig. 14. Canopy near the prow of Khufu's barque (photo: D. Vanhulle)



Fig. 15. Gangplank of Khufu's barque (photo: D. Vanhulle).

On Khufu's barque, the rows are attached to the girders thanks to large rope knots. Would it be possible to correlate these knots with those carved on the model? This interpretation would seem plausible and even encouraged by the fact that the rows are limited to the front half on both boats. However, the knots on the model continue up to the summit of the prow. This makes this hypothesis less likely to be correct, since rows cannot be found at this location. Another possibility would be that these knots reflect the complex ligatures that tied the girders directly to the thwarts. But, again, this is seriously challenged by the fact that, on the model, these girders stop where the knots begin. We tend to believe that this feature, which can after all be something very different than knots, should be related to the adornments that decorate the inner side of the prow on sacred boats such as the solar barques and the *Hnw* barque. These adornments also appear in Naqadian iconography, particularly on the frond boats discussed above and on the boat of Djet's comb (Egyptian Museum, Cairo: JE47176).

## 5. Additional observations

On their own, these models do not bring much information. No single example looks exactly like another and they all vary in dimensions, overall quality



and style. What can be witnessed, however, is the evolution of boat models: their production tends to be progressively more standardised and to correlate with canonical representations in the iconography. There is thus a common evolutionary process that can be followed on every media during the whole 4<sup>th</sup> millennium B.C.

The incurved sickle-shaped boat is the first obvious example of an official category of boat. It appears during Naqada I and evolves until the end of Naqada II. During Naqada IIC-D, models of greater dimensions were produced by the same workshops that manufactured the D-ware ceramics. They imitate the classical sickle-shaped boat of that period and show some technological details such as deck beams, added to strengthen the structure where the sides join to form the extremities, or the central plank.

There is a consensus on the fact that D-ware are closely related to funerary practices (Graff 2009: 121-124), but it would be simplistic to limit their use to this sole function. The fact that these ceramics bear traces of use and that they were found as far apart as Lower Nubia and the Sinai suggests that they were not created solely to be placed in tombs (Gilbert 1999: 30-31). Models and D-ware are not rare in a domestic context (Buchež 1998: 86), notably in Naqada (Di Pietro 2011a; 2011b) and Adaïma<sup>20</sup>. Models should be considered, along with figurines and other miniatures, as *ex-voto*. This could be corroborated by the discovery of C-ware and D-ware fragments, but also of bovid and anthropomorphic figurines, in a ceremonial building at el-Mahasna (Anderson 2011: 14-19). Although more analysis is needed, we tentatively propose that these valuable ceramics were used during community events, such as ritual or cultic ceremonies, before being deposited in a grave. Because funerary practices and beliefs are closely linked with the cultic domain, the iconography of the D-ware can be relevant in both contexts (that is to say, community events and funeral ceremonies). This can also explain the fact that most of Predynastic models ended up in tombs.

During Naqada III, models are mainly made from prestigious materials such as ivory and stone. As already pointed out, almost all ivory models come from cultic deposits. Because structural details, such as the vertical or cross-shaped incisions, are always made following the same techniques, it is reasonable to postulate the existence of specialised workshops. The development of carpentry and naval architecture goes back to the Predynastic period (Vinson 1987: 28-39; Ward

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<sup>20</sup> Fragments of 66 models have been found in domestic context, along with numerous D-ware fragments (Midant-Reynes and Buchež 2002: 454, n. 37, Pl. 2.26-2.28 ; Chr. Lorre and S. Hendrickx, *comm.pers.*).

2000: 25-38) and models show that many technical and technological achievements have been reached by the Early Dynastic Period. It is hardly surprising then to note strong similarities between model E.86 and Khufu's barque.

## 6. Conclusions

Only a holistic approach allows the identification of the common thread between apparently very different categories of objects. All artistic productions related to the depiction of boats undergo the same increase in complexity during the 4<sup>th</sup> millennium B.C. These productions convey different notions depending on their contexts of use: the boat can embody the Order that prevails on Chaos when depicted alone or in hunting scenes, but it can also designate political and religious power when used in naval processions (Hendrickx and Eyckerman 2010: *op. cit.*). These naval processions, which appear on the Gebelein painted linen (Ciałowicz 1997), on the painting from the Tomb 100 at Hierakonpolis (Quibell et Green 1902: 20-21, Pl. LXXV-LXXIX), on ivory knife handles (Williams *et al.* 1987; Delange 2009) and on the Qustul incense burner (Williams 1986: 108-112, 138-147, 360, Fig. 171, Pl. 34) are indeed considered to depict a royal jubilee (Williams *et al.* 1987).

Models testify to the progressive establishment of cultic practises, at first during ceremonial events, then during official ceremonies conducted in temples. Their production was perhaps limited to the household at first, then quickly became more professional: a high-quality production for the elite emerged by the Naqada II C-D period. Ultimately, most of them ended up into tombs.

The consistency in the way the boat is represented in each category of material grows stronger in the course of the 4<sup>th</sup> millennium B.C. Two main types appear, namely the sickle-shaped boat and the papyriform boat. With its archaic style and its vaulted cabin, the latter seems to be the equivalent of the sacred and processional barque of the Pharaonic period. Detailed examples show that this cabin has what seems to be a door placed to the left of its central axis. This structure most probably represents a shrine and confirms the sacred nature of this kind of barque (Hendrickx *et al.* 2012: 300). We tend to think that frond boats were the first representatives of this category of ceremonial barques.

During most of the 4<sup>th</sup> millennium B.C., the boat was the allegory of political and religious power, of control and of wealth. It played a central role in the Naqadian ideological system since it embodied the notion of "Order out of Chaos" in the iconography, which will later give birth to the fundamental concept of Ma'at.

By analysing the use of the boat in Naqadian arts, it is possible to follow the evolution of a complex ideological system that ultimately set the basis of the Pharaonic civilisation. Things changed with the first personifications of the king as the ruler of the Two Lands. The boat was then not needed anymore to express complex ideological notions since they were embodied by the king. Nevertheless, the boat continued to express royal power in rock art during the first reigns of the First Dynasty: official engravings commissioned by the State have indeed been discovered in remote areas such as the South Sinai Peninsula (Tallet and Laisney 2012; Tallet 2015) and the Gebel Sheikh Suleiman (Tallet and Somaglino 2015). They testify the control of a specific territory by the new Egyptian State thanks to the depiction of a boat in association with a *serekh*. By the Old Kingdom, the boat starts its timeless function in iconography: a means of transport for men, kings and gods, on earth and in the sky, in this world and in the other.

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