

## PAPYRELLA: REMOTE DESCENDANT OF A MIDDLE STONE AGE CRAFT?

The Hellenic Maritime Museum has recently added to its exhibits a kind of primitive craft, a reed raft which is no longer in existence, now that modern technology has made unrestrained incursions on every sector of our life.

This floating device had disappeared today, and its method of construction has definitely been vanished. For this reason we believe that this now forgotten type of Greek vessel should be preserved. As we shall see later, this is a type that most probably existed for some ten thousand years in the waters of the Eastern Mediterranean provided that certain assumptions are proved correct. There are few extant illustrations or photographs, and as we have said, its method of construction has been forgotten. Characteristic of this is the fact that the last remaining builder with knowledge of its construction method, Nikolaos Michalás, a farmer and fisherman, is today eighty-eight years old practically blind.

As insignificant as it may seem by our standards of today, a more thorough observation of this device could, we believe, lead us to a notable extension of knowledge in this area of interest. However, before going any further, I shall give a description of the craft's, basic structure.

The reason that impelled primitive man to devise rafts or floating apparatuses using reeds is the same one that impelled him to devise vessels of leather - The lack of suitable tools for the construction of canoes or wooden rafts. Another reason was - and continues to be - the lack of suitable wood.

The first rafts made of reeds were devised by people who lived around swamps, lakes and river banks, where reeds thrive and the water is relatively calm.

We find them in Egypt, Mesopotamia, Africa, the Pacific, in Americas and in Central Europe (the Hungarian Lakes). In the Mediterranean area, we encounter them in southern France, in Corsica (Oristano Lake) in the Illyrian Coast, and finally, to come to Greece, we used to find them up to the pre-war years on the north-west coast of Corfu, under the name of "papyrella". This last type of raft, will be the subject of our today's paper.

The basic material used in the construction of the "papyrella" was "papyri". This is a type of thin reed (*Ferula Communis* L.) with a fleshy innercore, which from information that the President of the Folklore Society of Middle Corfu, Mr. Nikolaos Paktitis, was kind enough to give us, sprouts in the marshy spots of the Ropa Valley, in Kavourolimni, in the area of Fountana near the village of Liapades, in North West Corfu.

It is usually cut green towards the end of June, when it is in its greatest period of growth, and before it starts to "lose weight". The length of these cut reed is from 2 to 2.5 meters; their diameter at the base, from 2 to 3 centimeters, while at the top it is 0.5 centimeters. The cut reeds are spread out to dry. They must not be stepped on or torn because the core substance in the reed entraps air, which results in its acquiring good buoyancy. If the reed breaks water is sucked into the core; for this reason a "papyrella" had to be kept as dry as possible. When it was taken out of the water, it was always placed in an upright position in order to dry.

At this point, it should be noted that the "papyri" has nothing to do with the well-known papyrus of Egypt; however, the etymological relationship between these two terms is noteworthy.

thy, because it is difficult for one to believe that the inhabitants of Corfu gave this name to the plant without their having any knowledge of its counterpart in Egypt, where it was also used for the same purpose. It seems that some kind of contact must have existed, but how and why are questions that have yet to be answered.

The structure of the "papyrella" differs from that of other similar rafts which were and are still being constructed in other areas, and, as I have already pointed out, we come across rafts and vessels made of reeds almost everywhere in the world. In our case here, we have a kind of primitive frame-work. More specifically, the maker first formed a wooden framework consisted on the top of which he bound the papyri. The framework consisted of six to eight green cypress plants approximately 3 meters long and 2.5 to 3 centimeters thick at the base. The top parts of the plants were tied so that the cypresses would spread out like a kind of fan fastened in such a position on three planks 20-22 centimeters broad and 2.5 centimeters thick placed in transversal. In certain cases we have cypress branches instead of planks. The spacing out of the cypresses on the back end reached from 1.20 to 1.30 meters. We can say that this "threadwork" corresponds to the framework of wooden vessel. Sometimes, for greater durability, the spaces between the cypresses were filled with common reeds; this provided necessary reinforcement when a papyrella was pulled back onto land since it had, acquired a much more solid bottom given the fact that the "papyri" is an easily perishable material.

On this framework the primitive shipbuilder placed bundles of "papyri" which he bound tightly onto the cypresses and transverse planks, giving them a thickness of 45 to 50 centimeters at the base of the triangle which constituted the stern of the "papyrella", while at the top it reached about 30 centimeters, resulting in the formation of a prow-bound, downward sloping platform which made up the "deck" of the raft. On the deck transverse planks were placed which were like those of the bottom, and all of these-framework, papyri bundles and planks-were bound tightly together into a unified whole. One account tells us that 5 or 6 cypresses, of the same form as those in the lower side, were also placed on the deck under the planks. Finally, two cypresses were placed on the stern, and bound there from the bottom to around the top, thus completing the caging in of the papyri bundles. The stern was secured by knitting a makeshift net with string.

As a next step, bundles of papyri, 5 to 6 centimeters in diameter, were placed around the upper part of the raft, thus forming a kind of gunwale. Finally, the cypress tops on the framework were held and bound toward the back, thus taking on the form of a fairly familiar kind of stern on such crafts. The string which held the tops was tied over the framework of the papyrella, thereby taking on their definitive shape. The height of the top of the stern reached 65 to 70 centimeters from the base. The stern was "sheared" so that it took on the shape of a transom. There is an account that papyrellas with a rounded stern also existed. It was equipped with a paddle 2.40 to 2.50 meters long.

The Corfu "papyrella" was in general a small-sized sailing device. Its usual length was 2.5 meters and its greatest width 1.20 to 1.30 meters. Its travels were confined to lakes and bogs, rarely faring out to sea and far from the coast. However, as Professor A. Sordinas, who has studied this type of raft reports, there are local traditional references to the effect that in older times two papyrellas would be joined stern to stern by placing between them fibers of wooden pikes and tightly binding these; the result was the formation of a cigar-shaped sailing vessel

of about 5 metres' length. With these kinds of papyrellas local fishermen would go clear out into the sea to fish for lobster. We have here, namely, a case of a "papyro-boat" analogous to those of Egypt.

Considering the foregoing information, one may pose the question. What broader significance could the presence of a relatively primitive sailing structure like the Corfu "papyrella" have on shipbuilding in general? In any case, a more careful observation leads us to some positive conclusions. First of all, it shows that there was a native tradition of building vessels with reeds on an East Mediterranean island, secondly, that all the prerequisites for the construction of sailing vessels of this type exist in the Greek flora; thirdly, that its method of construction lies within the competence of primitive man's endeavours; and fourthly, a fairly remarkable mesolithic settlement has been located in Sidari of North West Corfu in a geological layer which has been radio-carbon dated at 5870 B.C.  $\pm$  340.

Comparative analysis of the archaeological and ethnographic material shows that from the end of the seventh millennium B.C., this mesolithic settlement of Sidari in Northern Corfu had seafaring contacts with distant lands and probably with eastern Italy. Later, in the early neolithic period of the sixth millennium, another settlement in the same place had direct contacts with Dalmatia. In the Diapontia islands situated to the north-west of Corfu, other researches have located settlements of the Bronze Age — the third millennium — with tools made of diorite stone which surely came from Pindus. In other words, we have definite signs of navigational activity in the Adriatic and Ionian Seas occurring up to the mesolithic period.

One other thoroughly proven instance of navigation, this time in the Aegean, is ascribed to the 8th millennium period of the transport of obsidian of Milos to mainland Greece. The obsidian of Milos was discovered in the oldest pre-ceramic neolithic strata in Argissa, Sesklo and Soufli.

However, the most surprising fact is the discovery of obsidian in the Mesolithic strata of the Fraghthi cave in Argolida, which are chronologically placed around 8.000 B.C. The indication that obsidian was transported by sea from Milos is a most *intriguing* one. Milos is approx. 65 sea miles away by sea from the cave. Furthermore, these trips must have been made many times, for the obsidian of Milos, appears in successive strata. Today it is accepted that *the obsidian of Fraghthi can be regarded as the oldest positive proof of the transport of goods by sea from any other part of the world.*

The significance of this proven fact is enormous. That is, it is becoming evident that sailors crossed the Aegean and reached Milos to obtain the obsidian very long before 7.000 B.C., that is to say, before the advent of agricultural life.

The foregoing conclusions bring naval archaeologists face to face with a problem. What were the vessels in which obsidian was transported from the islands to mainland Greece by those first Aegean sailors like? What were they made of, or at least, what was their shape, or finally what did they look like? The answers to these questions are clear guesswork since we must go back to a period of time thousands of years, specifically from 2.000 to 1.500 B.C., in order to find the first depictions or the ship models which give us an idea of what these primitive vessels looked like.

A consideration of follow-up views on these subjects, and further study of the primitive vessels around the world, lead us to the conclusion that these vessels must have been dugouts or

something similar. However, if we accept this another problem arises. The tools which are found there are typically microlithic, that is, it appears that it would have been difficult to build something like a dugout with these tools. The problem, then, of how easy or difficult it may be for someone to build a dugout with a collection of microlithic tools, does not seem to be one that has been solved.

However, there is another accepted belief, that these first sailors used a kind of vessel made from bundles of reeds. This type of boat is much easier to build than all other primitive vessels since it requires only simple tools to be constructed. The use of such crafts in Egypt and Mesopotamia, where reeds thrived and wood was lacking, is well known and needs no further statement here. However, vessels built in this manner have a limited capacity. If they were made longer, they would have broken in two in bad weather or under a heavy load. They have very little side, capsize easily in turbulent waters and drift helplessly in the wind. Consequently, they are basically no seagoing vessels. Nevertheless, there is very little doubt that these vessels were the most significant means of transports for valuable cargo in many places of the world.

All the above information brings us to the conclusion — a hypothetical one, of course — that the vessels which transported obsidian in the Middle and Late Stone Age period *may* have been made from reeds.

Unfortunately written sources from the Stone Age do not, of course, exist — at least as — of today. A reed is a perishable material of which we cannot expect to find any remains in Middle Stone Age strata. What remains is an analysis of the ashes from the excavation done in the Fraghthi cave, which, if it reveals the existence of a certain kind of reed in the Middle Stone Age strata, the above theory will be significantly reinforced.

Until then, our theories on reed vessels in the Middle Stone Age period will remain unproven.

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