

Boats sails on water for at least 9000 years. The most former witnesses are wrecks discovered at the time of archaeological excavations and date from the Mesolithic period *.

WHY SAILING ON THE RIVERS ?

During the Mesolithic era it was primarily for hunting and fishing. It is attested in NOYEN-SUR-SEINE by the environment excavated around the dugout which delivered evidence of fishing activities (remains of nets, fish remains - eel, pike,...).

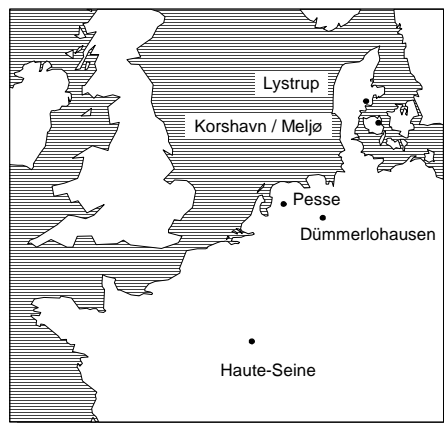
TYPES OF BOATS

The prehistoric boats are of monoxyle type (built of only one piece of wood) most of the time in coniferous tree. The shape is very lengthened (until more than 8 m) but narrow (50 to 60 cm). Outside is often circular (trunk barked gross), the ends spoon shaped with sometimes reinforcement inside.

ARCHAEOLOGY OF THE OLDEST BOATS OF THE WORLD

In all the cases, the wrecks arrived to us thanks to their hiding in a wet medium which preserved them from degradations. During the period prior to 5000 years BC, the discoveries, for the moment, are concentrated in the North-West of Europa :

- Holland (SPRUCE 8265 \pm 275 LP),
- Germany (DÜMMERLOHAUSEN 7610 \pm 100 LP),
- Denmark (KORSHAVN/MELJØ 6260 \pm 95 LP, LYSTRUP 1 6110 \pm 100 LP). Paddles were found in Great Britain (STAR CARR) and in Denmark (ULKESTRUP LYG, HOLMEGARD, DUVENSEE) which still make move back the river navigation in thousand-year-old IXe BC.



In France, the discoveries are remarkably grouped on the Haute-Seine upstream of PARIS.

The first is a monoxyle dugout found in 1984 in NOYEN-SUR-SEINE, in a context of side paléo-channel in the Seine river. It is built in a trunk of pine woodland and preserved over a length of 4,05 m. Its width varies from 50 to 55 cm and its height is close to 20 cm. The dating carbon-14 gave 7960 \pm 100 BP i. e. 7190-6450 BC.

The second discovered one is that of two other dugouts done in NANDY (77) in 1994 within the framework of underwater prospections carried out since 1990 by the GROUPEMENT DE RECHERCHES ARCHEOLOGIQUES SUBAQUATIQUES. They are always places from there in the middle of the bed on the site of the old Ford of Guiche, submerged after the drain in 1868, with the departmental limit the Essonne/Seine-et-Marne. It is about a vestige of old silted channel, located in the middle of the river, under 5 m of water.

The archaeological area is a "lens" of plastic sediment laminated by the erosion, rich in organic remains well preserved from where the dugouts exceed partially. Piles of old medieval fisheries IXe-XIIe centuries cross dugout I.

Their lengths are approximately 7,9 m and 8,1 m and the matter of the pine like that of NOYEN. The datings carbon-14 are 8059 \pm 53 BP either 7245-6710 BC for dugout I and 7991 \pm 53 BP or 7040-6620 BC for dugout II.



A Mesolithic dugout by 5 m depth - the Seine with NANDY. (Ph. GRAS)

THE EXPERIMENTATION

From the finds in the Seine, the team of voluntary archaeologists of the GRAS carried out a project of experimental archaeology consisting in manufacturing monoxyles dugouts on the model of NANDY.

The objectives are:

- to find plausible manufacturing processes,
- to manufacture the tools, to study its behavior,
- to study the use of the dugouts, hydrostatic, their characteristics, ageing,
- to contribute to the interpretation of the archaeological discoveries.

* Mesolithic era: The period extends from 10000 to 5000 years BC. It is the end of the last glacial era. Fauna is almost identical to the current one. The men are exactly similar to us. In Ile-de-France, they often occupy the sandy grounds and the proximity of the rivers. The economy is based on hunting, fishing and the gathering. The stone tools are cut but not polished yet and the pottery does not exist yet.

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Outlining : barking, choice of the orientation (poop at the base of the bark), tracing of the higher face, removal of the section higher with wood corners and the mass.



Digging of transverse V grooves with the flint adze to prepare the action of the corners. The flint cuts wood well and resists an intensive use perfectly. In the event of damage it is possible to recut the sharp edge.



Hollowing by removal of glares with the corner or the schisels and the wood mass, shaping of the poop and the prow. An axial spur interns is preserved to avoid the splitting of wood during drying.



Burning : Burning on all the internal part and the outside of the ends. This operation makes disappear the splinters, naturally rounds the internal section by an effect of carbonization according to the rings of wood and protect against later biological degradations (insects, mushrooms).



The thickness of the dugout must be minimal to ensure lightness. The difficulty is not to cross at the time of the digging. The thickness is controlled using a simple instrument in the shape of arche by simple difference between the total height of the dugout and the depth measured compared to the edges.

BUILDING PROCESS OF A DUGOUT

Tooling

To work under conditions close to reality and to find the gestures of prehistoric, tools are reconstituted according to archaeological finds : cut flint adzes, wooden hammers (monoxyles), wood corners, schisels in bone and stag wooden, tracing wire. Even fire is lit by tinder ignited with a flint lighter.

As work with these means is long, modern tools are also used: axes, adzes, iron corners, ...



Sailing on the Seine river



The completion consists in scraping the carbonized parts and planing the edges. The holes and the fissures are caulked with mixtures of beeswax and fibres vegetated applied them hot to ensure the sealing.

In complement paddles monoxyles and booms of propulsion are built. A stone fitted with a rope allows the mooring. Then ... to the water.

