## POLITECNICO DI TORINO SECOND SCHOOL OF ARCHITECTURE Master of Science in Architecture *Honors theses*

## "Building for the sea, safeguarding ashore". Brigs, ships and peote: a complex

conservation by Sara Porello

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The thesis deals with the complex issue of conservation and museums displaying of wooden cultural heritage. The analysis focused on a specific class of objects and materials which contained wood that had remained in water-saturated and anoxic environments. Examples considered included ancient ships coming from archaeological underwater or burial sites.

The research path was a result of an investigation within different scientific fields that were explored in the course of the work. The research brought me directly into contact with the professionals involved internationally in the field of waterlogged wood conservation, and with the major ongoing research projects. The final work was a result of three work experiences connected to the English and Italian context. In order to complete the study, a chapter about wood was inserted at the beginning, as it was common element within different scientific reasonings.

Turin was the reference point because took place in this city several meetings which influenced the course of the work and Milan was included as it hosts the Ebe, the ship from which everything started. The research, soon, crossed national borders with the experience carried out in England.

The work consists of a continuous reference to the corpus of material available only in London, Greenwich and in Portsmouth. In England, more than elsewhere, there was clear need for a strong multidisciplinary approach both in conservation and in museum design which became the leitmotif of this work. The third work experience was carried out at the Training School "Wood Cultural Heritage Conservation: Advanced X-Ray and Optical Techniques" organized within COST Action IE0601 "Wood Science for Conservation of Cultural Heritage", and COST Action MP0601 "Short Wavelength Laboratory Sources".

The selected case studies concerned different experiences both in historical features and in their conservative tracks. In all cases there were several common elements that can be defined as a method applied to the raising, conservation and museum displaying of these wooden artefacts. This sequence of actions was also applicable to the management of similar problems as those related to the last two ships analyzed. Both the methods and the goals were common and conservation was always approached by a multidisciplinary team. In the selection of the case studies five different situations were taken into account which can describe different phases of the conservative works.

The interest in this class of objects came from the work carried out on the Ebe, but became more specific in the comparative analysis with other ships kept in museum. Immediately it was clear that mostly concerns ancient shipwrecks coming from the underwater environment showing special conservative needs, as made of waterlogged wood.

The emblematic case of a ship displayed in a museum is, probably, the Vasa. It was also the first approach to the field of waterlogged wood treatments and the same issues were acknowledged in the study of the Mary Rose. The research work needed some chemistry skill to understand problems connected to different treatments and their impact on museum design and the multidisciplinary was experienced directly. The cooperation between several professionals was more evident at the Training School. At this time the study was focused on several Italian ships. On one side the research dealt with the waterlogged wood, on the other the goal was establish a method applicable to a wider context. It was decided to focus the interest on the ancient ships of Pisa and on the Bertignano Pirogue. The last two examples didn't deal with waterlogged wood conservation field: for the Ebe a monitoring is needed, while the Peota has still to be restored. It was, rather, to check whether the same multi-phase and multidisciplinary approach could be appropriate to achieve, even in this case, the common purpose of heritage conservation.

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