THE FIN WHALE MOUNTED SKELETON OF THE MUSEU DE CIÈNCIES **NATURALS DE BARCELONA. DOCUMENTATION AND GRAPHIC RECORD.**

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ABSTRACT

The mounted fin whale skeleton, Balaenoptera physalus MZB 83-3084, is a landmark piece at the Museu de Ciències Naturals de Barce-Iona. Since it first became part of the collection in 1917, it has been transferred, modified, assembled and reassembled several times. In this poster we present the process of documentation and graphic recording of the piece. This study was carried out on June 2010, before the skeleton was entirely dismantled for remounting in a new site with a new support structure.

INTRODUCTION AND OBJECTIVES

On 11th June, 1862, a fin whale stranded on the beach at Llançà (Girona). This event marked the end of the animal's life but the beginning of its existence as a collection specimen

That same year, the University of Barcelona bought the fin whale bones and transferred them to its premises where the skeleton was mounted and exhibited for the first time.

In 1917 the piece was deposited with the Museu Martorell, the predecessor of the Museu de Ciències Naturals de Barcelona (MCNB). There was some confusion among visitors at the time because the specimen became known documentation of the current assembly:

The piece was fully revised and several macroscopic photographs of the mounting system and its construction details were taken (camera: Cannon Powershot G10[®])

3. Drawing of a detailed map of the current assembly: To create the elevation map, two series of macroscopic photographs –one for each side– were taken around the perimeter of the piece, aiming to select the most frontal viewpoint possible (camera: Cannon [®] Powershot G10). Each series of photographs was overlapped and processed to obtain a continuous assembly (software: Adobe [®] Photoshop [®] CS3). A freehand trac-

· Some small bones are missing (replaced by replicas in wood). Possible cause: vandalism (insufficient protection against vandalism and visitors' easy accessibility to the piece: the phalanges at the ends were

accessible to the public for years (Figure 8)). 3. Figure 4 shows the digital detailed map of the current assembly.

CONCLUSIONS Examination and documentation of the structure that held the skeleton Balaenoptera physalus MZB 83-3084 of the MCNB before its replacement was essential so as not to lose information about the history of such an



1. Museu Martorell, Zoology hall, 1922 (MASRIERA, 2006)

2. Museu de Ciències Naturals de Barcelona, Castell dels Tres Dragons, temporary exhibition hall, c. 1986 (Author Unknow)

as "the dinosaur" (DACOSTA & PAGES, 1993) (Figure 1) In 1925, the skeleton was transferred to the "Castell dels Tres Dragons", the current site of the "Laboratori de Natura" of the MCNB, where it was

displayed on the first floor.

In 1947 the mounted skeleton was again dismantled and moved to the ground floor of the same building.

In 1986, it underwent intervention once again. This time it was not a transfer but a change of position. It was adapted to hang from the ceiling. With this reform, the ground floor became diaphanous and the hall began to be used for MCNB temporary exhibitions (Figure 2).

Although the ephemeral installations for temporary exhibitions diminished the visibility of the mounted skeleton, the piece never lost its prominence. Due to the display of the fin whale skeleton, the room where it was hung was renamed the "Hall of the Whale" (Figure 3).

In 2009 MCNB launched a new project that involved the transfer of permanent and temporary exhibitions to a new building called the "Museu Blau." The plan included removal and restoration of the fin whale skeleton and complete redesign of its assembly structure. Except for the skeleton itself, the whole display –the anatomical position of the bones, the structure, the materials and the assembly system– will be replaced and completely remodeled to display the skeleton in its new site. It was the scope of this intervention that prompted the MCNB conservation team to carry out a detailed analysis and documentation of the piece. The objectives of study were:

1. Comprehensive documentation of the structure of the piece that will be removed.

2. Developing a detailed mapping of the piece's shape and its mounting elements, as has been preserved to this day.

METHODOLOGY

1. Collection and study of historical documents that could contain information related to the mounted skeleton: Sources: Figueres Regional Archive, Llançà City Council, Archive of the University of Barcelona, Barcelona Administrative City Council Archive, MCNB

Historical Archive, Library of MCNB and interviews with museum staff. 2. General and detailed organoleptic examination and photographic

ing of the photomontage obtained was then drawn. This was revised by observation and detailed measurements on site. Finally, the freehand drawing was digitized (graphic tablet: Wacom [®] Intuos 3) and a vector drawing program (Adobe [®] Illustrator [®] CS3) was used to map the details and the sections. Notes and detailed photographs taken on site were used to perform a final revision of the map.

RESULTS

1. Data collection and study of available historical documentation on the piece:

According to the documents collected and analyzed, some of the current support elements in the structure of the fin whale could date back to 1862; in other words, they could be part of the original assembly of the skeleton. The brackets that hold the weight of the skull and mandible could be either original or would have been added during the modifications made in 1925. Finally, most of the current systems and materials that fix the skeleton to the structure would have been built during the remodeling process in 1947. 2. General and detailed organoleptic examination and photographic documentation of the current assembly.

Organoleptic examination of the current state of the piece showed some conservation problems arising from the assembly structure. The extent of damage and possible causes are listed below:

· Marked accumulation of dirt. Possible causes: low maintenance and unconditioned exhibition area. Periodic cleaning of the piece was not carried out, partly because of its inaccessibility once hung from the ceiling. In addition, the exhibition area has no dust filter device (Figure 5). · Broken arches of some cervical vertebrae. Possible cause: improper installation system. The vertebrae are suspended on a bar that passes through the foramen, so arches must hold the weight of the entire vertebra (Figure 6).

· Oxide stains on the bones. Possible causes: improper assembly materials and nonconditioned exhibition area. Non-stainless metal elements in the structure are in direct contact with the bones. Corrosion of metallic elements has been accelerated by the absence of environmental control in

the exhibition area (Figure 7).

emblematic museum piece.

about the origin and evolution of the structure of the piece. A detailed organoleptic examination of the piece revealed problems in preservation of bone, arising from inappropriate assembly materials and systems, and deficiencies in preventive conservation (accessibility, maintenance, environmental conditions and air pollution). Mapping via computer-aided design provides a precise document of the current structure of the piece and its assembly systems. The map and legends provide a higher level of analysis than the photographs.

The new project to dismount, transfer and install the whale skeleton in the "Museu Blau" involved the deletion of some supposedly original elements from the mounting and complete transformation of the piece. However, the dismantling not only allows full restoration of the skeleton but furthermore, the reassembly project includes the replacement of assembly materials and systems that were potentially harmful to the bone.

Finally, installation in a new exhibition area will provide the opportunity to improve the general prevention conditions and conservation of the piece.

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3. Museu de Ciències Naturals de Barcelona, Castell dels Tres Dragons, temporary exhibition hall, 2010 (Jordi Vidal)



5. Accumulation of dust on the bone surface (Bernat Font Rosselló)

6. Fractured cervical vertebrae (after removal) (Bernat Font Rosselló).

7. Oxidized iron bolt. Migration of the oxidation products to the bone (Bernat Font Rosselló).

8. Replicas of the phalanges at the ends of the right fin, rear view (Bernat Font Rosselló).

4. MZB 83-3084 - Balaenoptera physalus. Elevation and detail map, 2010 (Marta Pérez Azcárate and Bernat Font Rosselló).

