



DOI: 10.29252/jra.5.2.185

URL: <http://jra-tabriziau.ir/>

## Book Review

## Designing based on needs for the packaging, transportation and storage of human bones from archaeological excavations

Ramin Mohamadi Sefidkhani<sup>1\*</sup>, Zahra Rajabioun<sup>2</sup><sup>1</sup> M.A in Archaeometry, Institute of Archeology, University of Tehran, IRAN<sup>2</sup> MA in Archaeology, University of Sistan and Baluchestan, IRAN

Received: 24/09/2019

Accepted: 21/11/2019

**Abstract**

Human burials from archaeological excavations are of great importance due to the available information on the history and culture of human societies. Today, in addition to studies of the burial form and the data in the grave, human bones have also shown the necessity of anthropological studies in the form of biological and archaeological studies to identify diets, types of diseases, Human Migration, etc that are based on the identification of the constituents of skeletons, stable isotopes, age and sex abundances, traumas, and so on.

Generally, Every year in archaeological excavations from Islamic sites to pre-historic sites, human and animal skeletal remains are found in various burials that their fate is as follows.

- Extraction of objects with bones, Burial record and bone re-burial.
- Fixed skeletons and their use as part of the site of museums in archaeological sites.
- Transfer of discovered skeletons to museums using blocking techniques.
- Takings of skeletons in separate pieces and transfer to museum repositories for display or storage for future scientific studies.

The last option has attracted a lot of attention over the last few years. However, transportation conditions and improper maintenance can cause them to be destroyed or re-buried. In fact, data from the time of discovery require to take proper packaging, safe transportation, storage and maintenance in suitable environmental conditions, and the simple and quick ability to move in crisis management situations; Also, providing researchers with secure, orderly and directional data is of high importance.

This note attempts to provide a practical solution with regard to the condition of the taken bones from sites, initial transportation and temporary on-site storage, and ultimately transportation to museum reservoirs and their maintenance. These solutions allow the temporary and permanent transfer and maintenance of skeletons, along with the convenience of inspection and study, and the safe maintenance or transportation for good. These solutions make it possible to transport and maintain skeletons with the convenience of review and study, and permanent maintenance or safe transport. For this purpose, considering the largest bones dimensions discovered in archaeological excavations, and the possibility of dividing human bones segments into matched groups, designing separable boxes and reassembly to hold a human skeleton. The box is designed in four separate floors with a total height of 66, width 33, and length of 57 cm, which are connected by sliding frame and cap and side clamps (picture1,2):

- The floor is 12 cm high with three sections designed to separate the bones of the thighs

\* Corresponding author: [ramin.mohamadi@rocketmail.com](mailto:ramin.mohamadi@rocketmail.com)

and legs.

- The second part is 12cm high with three sections for left and right hands and forearm placement.
- The third part, 12 cm high, consists of three parts: ribs, spines and jaws.
- The fourth part, 26 cm high, is the largest part of the human skeleton, including the skull, pelvis and shoulders.
- The cover is attached to the box frame which is a sliding frame to accommodate the boxes and The cover section is intended to accommodate documentation and sample storage (picture 2. 3) .

Considering the cost of the transport and temporary picking up to the workshops and warehouses museums, and often opening and re-packing in museums tanks that require several different packaging tools, the design can be quite justifiable by mass production would probably be lower than the final price. Proposed materials for this design can be polyester materials for the external sector, blends of polyurethane foam with polyester coating for the interior sector. Despite its lightweight and durable of the final product of the design, In the case of mass production the final price of the product is reduced significantly. And if you use the box from data discovery to shipping, storage, and direct access to the various bony sections, it will provide good economic and practical justification. On the other hand, the box can be attached to be fixed and installed in museums' tanks, which also improves how data maintenance is (picture 4) .This box can be useful for animal skeletons that have significant abundance in archaeological excavations in different areas, as well as economically justifiable.