

BUT-HAR-CHONSU'S COFFIN LID (DYN. 21/22)

A study of ancient Egyptian woodworking and painting techniques

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1. Introduction: This contribution focuses on the woodworking and painting technique of an ancient Egyptian anthropoid wooden coffin lid belonging to the coffin of But-har-chonsu, a chantress in the cult of Amun, from the 3rd Intermediate Period, Dynasty 21/22.

The coffin was excavated in Western Thebes in 1891 with several other coffin ensembles from the Tomb 'Bab el-Gasus' at Deir el-Bahari. Two years later the outer lid was presented to the Kunsthistorisches Museum, Vienna.

The transport of the coffin lid to the museum was managed using several boxes, because the construction of the foot end had been disassembled to its separate elements. Serious damage in the past, followed by inconsistent and incomplete restoration measures in the 20th century, rendered the lid unsuitable even for safe storage.

This fragile state of the lid allowed a thorough investigation of its original construction and the decoration techniques used.

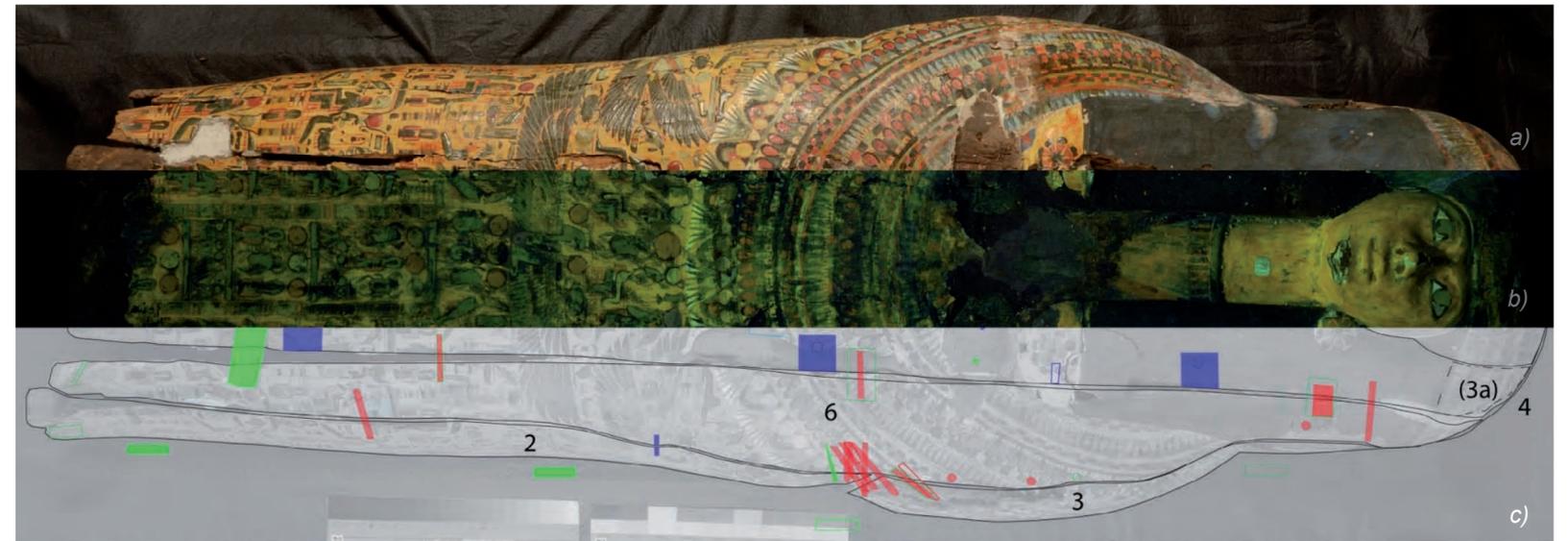


Fig. 1 Outer Coffin lid: 193 x 68 x 30 cm (without the foot end) constructed of 12 pieces of wood - Photocollage: a) visuelle light, b) UV-light, c) position of loose tongues and dowels in wooden carcass: joints of the recent (20th C.) restoration (red); ancient Egyptian joints of the production period (green); joints of an earlier period (blue) in reused wooden piece.

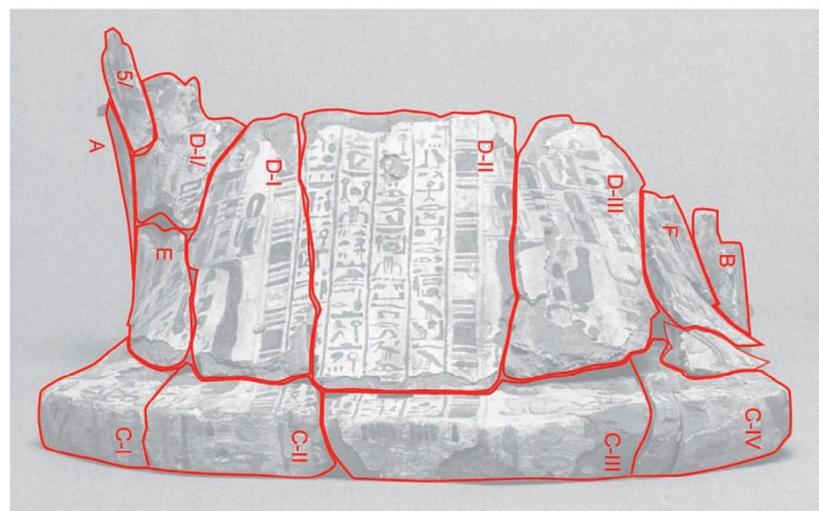


Fig. 2 Foot end: 27,5 x 51 x 45,5 cm constructed of 11 pieces of wood - The name But-har-chonsu is written on the middle piece 'D-II'. The disassembled foot end still shows the ancient Egyptian woodworking techniques with different ancient wooden joints. (© Photographs by KHM Vienna).



Fig. 2 a-d Several pieces of wood and ancient wooden joints of the foot end: a, b) the cubically shaped dowels were produced irregularly and imprecisely; a) the size of the large drill: approximately 100 mm in lengths and Ø 6-12 mm; b) dowels and filling mass; c, d) mortise/tenon joints with animal glue; c) UV-light: animal glue.



Fig. 2 e-h e, f and b) Small wooden wedges with animal glue and filling mass; g) textile (flax) as filling material; h) cubically shaped holes for dowels 8-10 mm.

2. Description - wood working: The coffin lid is constructed of 23 pieces of wood in irregular shape with various dimension and thickness that form the anthropoid shape. In antiquity, these elements were edge-joined together, with loose tongues and dowels fixed with animal glue. The holes for dowels and dowels themselves were produced in cubically shape. The cavities between the imprecisely worked pieces of wood

were filled and the exterior surface was covered with different preparation layers (Fig. 3). The mainly used preparation layer is a fine dark brown earthen material with less organic additives (plant fibres). This preparation layer contains acacia gum as binder. Further textile (flax) was used as filling material to stabilize gaps between joints (Fig. 2g). Remains of elder joints indicate that individual timbers have been previously

used for another coffin (Fig. 1c). The craftsmen also used insect (Anobium) damaged wood covered with preparation layer. Restoration measures in the 20th century secured the construction of the lid with new dowels, PVAc-emulsion glue and modern gypsum plaster. But the disassembled foot end still allowed to study its ancient woodworking technique.

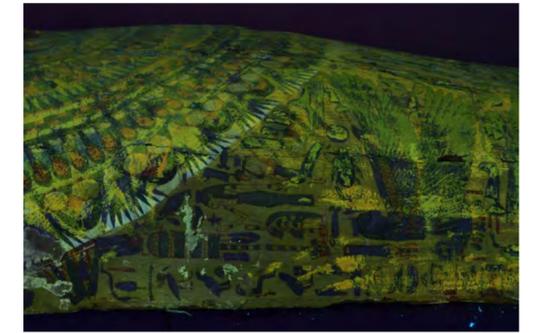
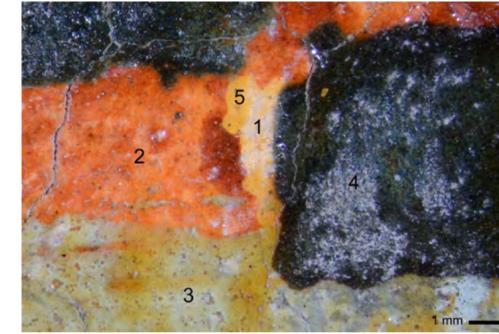
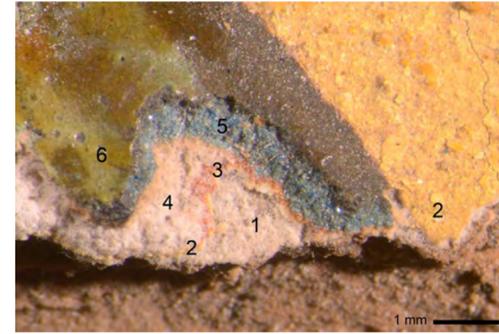


Fig. 3 ab Rough wooden surfaces are covered with different preparation layers: a) between the two layers a higher concentration of acacia gum; b) thickness of the layer up to 10 mm.

Fig. 4 ab a) Wig: coarse blue painting with a thin grey preparatory coat; b) stratigraphy: (1) white gesso, (2) headband, (3) grey, (4) blue, (5) trops of varnish.

Fig. 5 ab Decorative painting: a) gesso plaster; b)stratigraphy: (1) white gesso, (2) yellow ground, (3) red preliminary drawing, (4) gesso plaster, (5) blue, (6) green, (5 and 6 are changing).

Fig. 6 ab a) large collar: 1. red and light blue, 2. yellow and middle blue, 3. green and dark blue; b) stratigraphy: (1) white gesso, (2) red, (3) green, (4) blue, (5) varnish.

Fig. 7 ab Yellowing varnish identified as pistacia resin: a) UV-light - patchy distribution in some instances like finger paint; b) coating of high viscous resin.

3. Description - painting techniques: The exterior of the lid is lavishly decorated with multicoloured figures on yellow ground and a blue coloured wig. Extending from the shoulders to the underbelly there is a large collar, on which an imitation of the mummy-braces is painted. Some of the figures, hieroglyphs and sun discs are moulded in gesso plaster. The concept, as well as painting and binding agents are equal to the contemporary tradition.

Applied to the preparation layer is a thin layer with white gesso (calcium carbonate). The lower part with the religious scenes and inscriptions shows a yellow (mixture with Orpiment) ground with preliminary drawings in red. Before the scenes are decorated with blue (Egyptian blue), green (mixture), red and black, some areas described below are moulded in

gesso plaster, which contains acacia gum and sugar/honey as binder (GC/MS) (Fig 5).

The decorative coating of the large collar and headband are directly applied after the preliminary drawing on white gesso. The painting technique used by ancient craftsmen was that of applying mostly separate colour fields for each colour (Fig. 6b). Different working methods, painting and drawing styles of this decorative coating can indicate that this is the work of more than one painter.

The thickly applied coarse blue colour, identified as acacia gum and sugar/honey as binder (GC/MS), changed to a dark brown or black in the upper layer (Fig. 5b).

4. Varnish: The painting surface is coated with a typical brilliant yellowing varnish identified as pistacia resin (GC/MS). The application of the viscous resin contributed to a patchy distribution of the varnish in some instances especially of the lower part. While there is no varnish on the coarse blue surface of the wig, a thicker layer of varnish is applied on the face and hands (Fig 7).

5. Conclusion: The goal of the entire project was to reassemble the lid correctly in its entirety and to consolidate the decoration, which had separated from the wood.

Implementation of a detailed, step-by-step strategy ensured that the wooden planks could be appropriately and carefully separated preparatory to realignment and final reassembly of all loose pieces of decoration.

Acknowledgements: With many thanks to o. Univ.-Prof. DI Wolfgang Baatz, Dr. Anke Schäning and Dr. Nanke Schellmann for their supervision; Dr. Kujin Ahn for the material analysis (FTIR-ATR, polarization microscope) of the Institute for Conservation-Restoration, Academie of Fine Arts Vienna; Dr. Regina Hölzl

and Mag. Irene Engelhardt of the Egyptian Collection Department, Kunsthistorisches Museum Vienna; Dr. Vaclav Pittard and DI Sabine Stanek, Science Laboratory, Kunsthistorisches Museum Vienna, for their material analysis (GC/MS, polarization microscope).