

WOODEN CANOPIC BOXES WITH PR-NW LID –

Development of the lid construction till the end of the New Kingdom (part 1), and the practical use in working with object remains (part 2)

INTRODUCTION

In the burial chamber of the tomb TT C.3 in Sheikh Abd el-Qurna (Egypt), discovered by the Belgian mission in 2012, more than 30 individuals have been buried between the 18th and the 20th Dynasty. The heavy looting of the tomb caused not only the destruction of the wooden objects but also explains the significant lack of object-elements. Handling thousands of wooden elements (planks, boards, laths etc.) and fragments of them (broken parts of planks etc.) with numerous origins (deposition furniture like tables and stools, container furniture like boxes and coffins, tools and so on) can be compared to solving several jigsaw puzzles where the resulting objects can just be expected, the amount of the specific objects is unknown and several pieces are missing. **The key to solving this task was the detailed study of construction methods of the entirety of wooden tomb inventory and their development, beginning with the Middle Kingdom till the end of the New Kingdom.**

Due to the central role of canopic boxes, they are found in almost every tomb - and therefore being statistically second to coffins. Related to canopic boxes with pr-nw lid in this poster three results focusing on the lids can be presented:

- Part 1
- The shape of the middle part of the lid (between the end-walls) is changing over time and can be helpful for dating.
 - Within the change of the shape occurs a change in the construction method, which includes the amount and shape of the single elements used to produce these shapes.

- Part 2
- By using these results several elements could be identified as belonging to two canopic boxes with pr-nw lid and the missing parts could be reconstructed.

PART 1: DEVELOPMENT OF THE LID CONSTRUCTION TILL THE END OF THE NEW KINGDOM

EXCURSUS: BASICS OF CONSTRUCTIONAL DEVELOPMENT OF WOODEN OBJECTS [HERE](#)

METHODOLOGY AND ITS LIMITATIONS

Starting with wooden object types, which from our current state of knowledge can be expected in a New Kingdom noble tomb, my objective is to gain basic knowledge upon the shapes and sizes of the single elements that are needed to produce the anticipated objects (when dealing with object remains).

Hereby some limitations occur for every study related to a specific object type:

- The timeframe for answering this question by researching every single object type is usually just the time of being at the mission in Egypt. Yet this time is too limited to research all known examples of a specific object type.
- This leads to the exclusive use of resources that are available online (object entries in online-databases, literature available digitally) or somehow with the mission in digital way (pdf's of literature and so on).
- Evidences on constructional features combined with drawings occur usually in excavation reports of the beginning of the 20th century. However, the immense number of excavation reports cannot be checked in the given timeframe.
- Faster and more promising results can be obtained by researching online-databases for examples. But this on one hand certainly results in "investigating" photographs instead of studying the objects with your own eyes and on the other hand rules out objects from museums, that don't have online databases (yet), objects that are not mentioned in online databases (yet) or objects that have no published images online (yet).

All this together leads to the condition that every study is just based upon few (and fast accessible) examples and will stay in progress.

RESULTS

Differentiation of main shapes

The three known shapes of the middle part are sorted by the dating of the found examples: vaulted type from MK to NK (Ahmose), one example with gable-shaped middle-part dated to the end of the MK / beginning of the 21P and the flat type which is just known from a rectangular coffin with pr-nw lid from the 21P (for a drawing see 'MANT-project canopic box with pr-nw lid 1'). This also puts the shapes in the order of a decreasing quality level and therefore helps to visualize a stepwise abstraction / minimalization of the shape of the middle-parts. Related to the construction this illustrates the decreasing complexity of producing the middle-part and the decreased volume of wood that is needed to produce the different shapes. Next to that it can also be stated that elements for gable-shaped and flat lids can be produced of reused boards, whereas for the vaulted type scantlings are needed (what usually makes a freshly cut tree needed).

Based on the found examples it might be possible that the three types were developed one after another. But related to the low number of evidences at that time this reflects the current state of knowledge and will need to be revised when new objects occur.

Development of constructional features of canopic boxes with vaulted middle-parts

As the found realia mostly belong to the "vaulted middle-part" shape the constructional development can just be interpreted for this one. Also related to the points mentioned in the excursus the realia sorted by their dating are just those ones which could be dated safely. The sorting of the other realia is based on the interpreted development steps. The development shown here is based on the following features: the different kinds of positioning-aids, closing systems of the lid and orientation-aids.

NOTES

On terminology Definitions and discussion of the terms 'Box' versus 'Chest', 'Canopic box' versus 'Viscera Box', 'pr-nw', 'pr-nw lid' and 'closing system' can be found [HERE](#)

On the object corpus All technical drawings are based on these international standards: [LINK](#)

On technical drawings Colors in given examples: different colors are referring to different object parts (brown = lid; grey = case)
Colors in MANT-objects: different colors are referring to different status (brown = existing parts; grey = reconstructed parts)
(More information on the technical drawings can be found [HERE](#))

EXCAVATION DATA

Project: Mission archéologique dans la nécropole thébaine (MANT) [LINK](#)

Institutions: Université libre de Bruxelles, Université de Liège,

in collaboration with the MoA

Field director: Laurent Bavy

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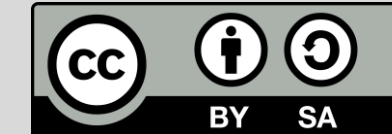
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- State-certified Restorer of Furniture and Wooden Objects

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- State-certified Carpenter / Joiner / Cabinetmaker

(Carpenter guild nuremberg, state-certified three-year apprenticeship)



SHAPES OF PR-NW LIDS MIDDLE PARTS

VAULTED

FLAT
Till that time just known from coffins

GABLE-SHAPED

Part 1

'Hapyankhtifi Type' (MET 12.183.14, LINK)	'Senebtisi Type' (1916 MACE et al, LINK)	'Amenemhet Type' (1930 BRUYERE, LINK)	'Iy Type' (Louvre E 17108, LINK)	'Minmoutou Type' (Louvre N 2949, LINK)	'Sitre Type' (MET 86.146, LINK)
<p>For the closing system it can be stated that at the beginning of the production of container furniture there was obviously no closing system at all, but a positioning-aid instead: the lid-battens. As for dealing with loose lids they need to be placed on the right location upon the case which was handled by using lid-battens at the exact spots to fit in the inner corners of the case.</p> <p>No hints on orientation-aids could be found but it is known from coffins since the MK that carpenter marks have been used for this function.</p>	<p>The lid-battens in the function as positioning-aids are now in the common orientation known from all kinds of containers from the MK onwards: parallel to narrow-face / left and right. The first permanent closing system (= securing system) was developed by using the already available lid-battens: crossing pegs were put through the case-sides and then were crossing the lid-battens.</p>	<p>As the middle-part was not found this is reconstructed based on the recesses in the end-walls and side. It is not known if there have been lid-battens, but they are not needed as positioning-aid anymore, as the loose tenons take this function.</p> <p>Next to that the loose tenons are also replacing the lid-battens in the function of the closing system. These could be produced form-locked or in addition could be secured with one or two crossing pegs each. (Here form-locked in the upper half und with crossing peg in the lower half.)</p>	<p>This object uses loose tenons as positioning-aids for the end-walls (which are not permanently joined to the middle-part). But this example shows one more possibility: for the middle-part rebates are used to place it at the proper location. (As a constructional consequence the width of the lid needed to be narrower than the case deepness.) The first constructional solution for differentiating the left and right side of the lid was the use of notches at one side.</p>	<p>With this type a combination of positioning-aid and orientation-aid occurs with the permanent connection of the left end-wall to the case.</p> <p>The right end-wall is still joined with the middle-part to produce the lid. This will be slightly oblique sliding into the recess of the left end-wall and then the right side of the lid part will be put down to place the loose tenon into its mortise (see drawing insert at 'Sitre Type').</p> <p>As closing system here loose tenons with two crossing pegs each were chosen.</p>	<p>(see 'Minmoutou-Type')</p> <p>Schematic drawing of closing system of Minmoutou and Sitre</p>

Part 2

CANOPIC BOXES WITH PR-NW LID OF THE MANT-PROJECT

CANOPIC BOX WITH PR-NW LID 1 (red contouring lines) / TYPE: Flat lid

MEASUREMENTS

width: based on the typical cube-shape → approx. 29,5 cm
 deepness: approx. 29,5 cm (in cubit: approx. djoser)
 height: complete: approx. 44,2 cm
 lid: approx. 14,7 cm (in cubit: approx. 2 palms)
 case incl. battens: approx. 29,5 cm (in cubit: approx. djoser)

LAYERS

- 4 red contouring outlines (colour value like red ochre)
- 3 yellowish background (colour value like yellow ochre)
- 2 creme-white compensating putty (colour value like chalk)
- (just locally, above joints and „wooden mistakes“)
- 1 wooden support (hardwood)

JOINTS

	Edge shape	fasteners	Securing medium
Case			
Side to side	Through dovetail	none	none
Bottom to sides	butt	1 peg / side	none
Battens to bottom	Butt	2 pegs / batten	none
Lid			
End-walls to middle-part	butt	2 pegs / end-wall	none
Lid to Case	butt	pegs? (1 / side?)	none



COMMENT: - elements (ausgewählte + weitere) - messergebnisse (i. cm and cubit) - Strich-Trotz-Bau-Loch = Unfertigkeiten der folgenden Elemente
 - fasteners (existing + missing) - messergebnisse - gpm = Verwindungspegel (Kalkula - vorstelll. drehmoment - schiller)

ORTHOGRAFIC (ISO 5456-2:1996) M=1:10

TAGE VERHÄLTNIS: B = T = H x 2

FEHLERFREIE ZEICHEN: - keine Anmerkungen, - aufgrund der typischen Selbstverständlichkeit - Größe d. Zeichens (inkl. Linien) - Stärke d. Zeichen (Anmerkungen mit Stärke d. Zeichen & Details)

FEHLER: - Deckelkanten mit Spalten? - Deckelkanten für Stabilität? (kann angedeutet sein) - Anmerkungen? / - Verwindungspegel? / - Zeichen alle selbstverständlich?

AXONOMETRIC (ISO 5456-3:1996)

Legend: ■ = existing, □ = missing, M = 1:10

Internal code / object title: MANT project CANOPIC BOX WITH PR-NW LID 1
 owner, inv. no.: MANT No: 4094, 4115, 4116, 4117, 4118, 4119
 date, region: NK, AB, D, T3; THEBES-KING, SAQA, TT C3, (lower chamber)

2022-04 copy of the drawing + final modifications digitally coloured (for better understanding)

CANOPIC BOX WITH PR-NW LID 2 (black contouring lines) / TYPE: Gable-shaped lid

MEASUREMENTS

width: based on the typical cube-shape → approx. 37,5 cm
 deepness: approx. 37,5 cm (in cubit: approx. remen)
 height: complete: approx. 53,5 cm
 lid: approx. 16 cm
 case incl. battens: approx. 37,5 cm (in cubit: approx. remen)

LAYERS

- 4 yellow background inside contours (colour value like orpiment)
- 3 black contouring outlines
- 2 creme-white background (color value like chalk)
- creme-white-compensating putty (not found outside)
- 1 wooden support (hardwood)

	Edge shape	fasteners	Securing medium
Case			
Side to side	butt	pegs (3 / side?)	none
Bottom to sides	butt	pegs?	none
Battens to bottom	butt	2 pegs / batten	none
Left end-wall to case	Lid in groove, with additional tenon in mortise	none	none
Lid			
Lid Right end-wall to middle-part	?	?	?
Lid to Case	butt	pegs?	none



COMMENT: - elements (ausgewählte + weitere) - messergebnisse (i. cm and cubit) - Strich-Trotz-Bau-Loch = Unfertigkeiten der folgenden Elemente
 - fasteners (existing + missing) - messergebnisse - gpm = Verwindungspegel (Kalkula - vorstelll. drehmoment - schiller)

ORTHOGRAFIC (ISO 5456-2:1996) M=1:10

TAGE VERHÄLTNIS: B = T = H x 2

FEHLERFREIE ZEICHEN: - keine Anmerkungen, - aufgrund der typischen Selbstverständlichkeit - Größe d. Zeichens (inkl. Linien) - Stärke d. Zeichen (Anmerkungen mit Stärke d. Zeichen & Details)

FEHLER: - Deckelkanten mit Spalten? - Deckelkanten für Stabilität? (kann angedeutet sein) - Anmerkungen? / - Verwindungspegel? / - Zeichen alle selbstverständlich?

AXONOMETRIC (ISO 5456-3:1996)

Legend: ■ = existing, □ = missing, M = 1:10

Internal code / object title: MANT project CANOPIC BOX WITH PR-NW LID 2
 owner, inv. no.: MANT No: 4094, 4115, 4116, 4117, 4118, 4119
 date, region: NK, AB, D, T3; THEBES-KING, SAQA, TT C3, (lower chamber)

2022-04 copy of the drawing + final modifications digitally coloured (for better understanding)

Photographs: © ULB, MANT-Project (Stéphane Feltler)
 Both photographs show the outside; M = 1 : 5; after conservation.
 Technical drawing: Antje Zygalski

Photographs: © ULB, MANT-Project (Antje Zygalski)
 The upper photograph shows the inside; M = 1 : 5; after conservation.
 Technical drawing: Antje Zygalski