

Studies on the wooden box containing the "Marco Polo's Bible"

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Abstract: Aims of the paper are the results of a research on a wooden box that holds an important historical document, which is a hand Bible handwritten in the thirteenth century.

The tradition connect this Bible to the name of Marco Polo (Venice, 1254 - Venice, 1324), who would be the owner and that it would accompany him on his travels (1262 and 1271) in China.

The Bible, of fine workmanship, written on thin parchment, and its container, along with a yellow silk cloth, is preserved in the ancient and prestigious Laurentian Library in Florence.

The manuscript was in very poor condition and in the course of the study (2011) was being restored.

Aims of survey were to determine the place and period of realization of the box, or rather if it be contemporary or later than the manuscript it contains and whether it was made in the East or in Europe.

Keywords: wooden object; cultural heritage; history; analysis

1. Short history of the Bible

The Bible (Figure 1), according to some studies, would be found and purchased (or received as a gift) from a Belgian missionary Jesuit, Philippe Couplet (Mechelen, 1623 - Goa, 1693), from a Nanjing family who was owner of the bible from over than four hundred years.

Still obscure remain the circumstances of the discovery of the manuscript, on his condition at the time of the discovery and on its transportation in Italy.

During a journey of Couplet in Italy between 1685 and 1686, and that touched also Rome and Florence, were donated about fourteen old books to the Duke Cosimo III de Medici and later transferred to the Laurentian Library in Florence. (Figure 2) [3]

Among these volumes would be included also the precious Bible.

In the archive documents of the late seventeenth century, which seem to talk about the Bible, it is never mentions the wooden box or about the condition of the manuscript.

The indirect sources are not, waiting for any further findings, of particular utility for the purposes of this study.

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Figure 1. The Bible during the restoration



Figure 2. The Laurentian Library in Florence.

2. Research indicators and study phases

To define age and place of production of the box, reference was made to possible indirect sources (historical data), and especially the following three primary sources:

- historical information;

- technological and constructive characteristics;
- wood species;
- stylistic elements.

In describing the construction characteristics, we wanted also take into account some information regarding the state of conservation.

From these indicator elements, through the circumstantial type method, have been deducted the conclusions.

3. Technological and constructive characteristics

The box measure² 135.5 x 186 mm and height of 68.8 mm. The four sides are joined with four "dovetail" joints for each corner. The walls thickness is about 22 mm.

The bottom, in a single piece of 4.4 mm thick, is glued flush to the lower edge while the cover, of 7.2 mm thickness, is to slide along the guides formed in the upper inner sides. The left outer side and the cover have ink inscriptions.

On the left side is write the sentences:

"Trovasi in questa cassetta (da riporre nel Pluteo III)

1) una Bibbia Latina (membr., sec. XIII), [molto? mutila?] impo(?)rata,

2) un docum.to firmato Philippus Couplet S.J.

3) altro documento di Andrea Giulianelli

4) copia di quest'ultimo fatta da C.R.

5) un verbale di ricognizione firmato, G. Vacco il 13 Giugno 1923" (Figure 7)

On top left: *27 Luglio 1912*

On the lid, at the top left, the letter *J.*

In central position the words:

C.I.
Appartenete al
Pluteo III
Biscioni
Catal. p. 121.
BIBLIA
APUD ETHNICUM
IN CHINA INVENTA. (Figure 5)

It follows an inverted J.

The lid, made up of three asymmetrical boards glued on the edges (Figure 6) has, in the upper outer right, a paper glued label; furthermore the ends towards the front side have a recessed lanceolate hinge and fastened with three nails along the axis, and a plate of 1.4 mm thickness hinged for the key closure of the cover.³

On the front side of the lid has been done a small niche in a semicircle for the insertion of fingers in order to facilitate the sliding along the sides of the box.

On the outer side of the bottom is present one rectangular carving of 2 mm for the insertion of a dovetail metal plate and the three holes along the axis.

²All measurements were obtained directly using a plastic centesimal gauge to avoid surfaces' damages.

³The key is no longer available.

It is thought that this is the track of the restraint system of the box to the bench of Pluteo III (in the Laurentian consultation big hall) as also indicated on the glued cartouche on the lid where is write:

*"Bibbia latina (sec. XIII:
membran.: tutta corrosa dall'umi-
ditàe dalla muffa).
Fu aggiunta al Plut. III°, ma senza
numero, con la radicazione "Capsula I".
Ved. Biscioni, Catal. ecc. p.121*

Si apre con la chiave N.14."(Figure 3)

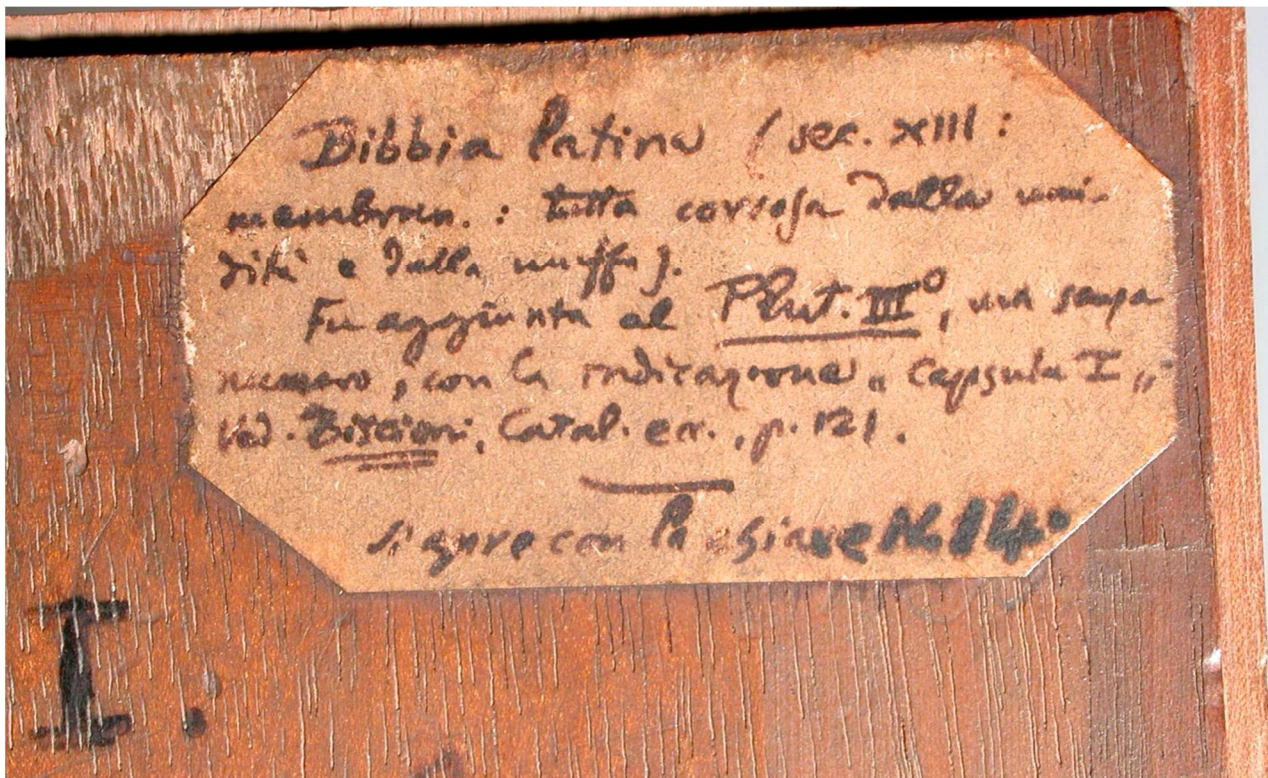


Figure 3. Particular of the label glued on the lid.



Figure 4. Front view of the box.



Figure 5. The lid outer side at visible light (left) and Wood's light (right)



Figure 6. The lid inner side at visible light (left) and and Wood's light (right)



Figure 7. The outer side of the left side to visible light (right) and Wood's light (right)



Figure 8. Inside view at visible light (left) and at Wood's light (right)

On the front face is a lock with an iron cartouche of 1.4 mm thickness and two characters (C. and I.) ink manuscript. (Figure 4)

All connections and joints are bonded with organic glue (ox glue).

The outer surfaces are coated with a thin transparent glossy finish, amber in colour, probably shellac base.

The inner sides do not present any visible or finishing coating.

The conservation condition was good. Observed negligible previous attacks by wood-boring insects anobiids (judging from the characteristic of three exit holes visible on the surface it is probably *Oligomerus ptilinoides*). [1]

Fissures due to shrinkages characterize the bottom of the box and the left side. (Figure 7 and 9)

On the bottom a wide fissure, that runs orthogonally and with irregular pattern from side to side, also highlights of the repair attempts by insertion of nails along the edge, which favoured the formation of more fissures. (Figure 10)

The inner side of the bottom and of the front are also characterized by the presence of clumsy groutings along the fissures and for closing of the holes of the plate to "dovetail" which, by observation with Wood's light, can be characterized as a mix of Boulogne gypsum and rabbit glue. (Figure 8)

The fissure on the top edge of the left side of the box, which originates from the top joint (Figure 7) and which runs up to the opposite side, has been repaired by the use of animal glue whose identification is conceivable for an intense fluorescence that is emitted with ultraviolet light.

No technological and constructive element argues in favour of an attribution of the box to a Chinese art craft and nor to the period of the medieval Bible. (Figure 20)



Figure 9. General view of the outer side of the bottom (left) and particular of the outer side of the bottom with the rectangular carving for the insertion of a dovetail metal plate (right)



Figure 10. Particular of the outer side of the bottom. Irregular fissures.

4. Wood species

Due to the historical importance of the item, we excluded to proceed with a withdrawal of material for a analysis of wood species through the thin section microscopy. [1]

The species determination has been then conducted in accordance with the standard UNI 11118 using only the macroscopic method. [4]

To obtain the species of wood, and for first if it is attributable to a European or exotic species, all surfaces of all the sides of the box were observed and particularly the corners where the cross sections are well visible. (Figure 11, 12 and 13)

The observations done with portable digital microscope showed, both on the longitudinal surfaces that in those transversal, the presence of porous wood with whitish sapwood that clearly stands out from the heartwood brown sometimes streaked with darker veins.

The growth rings can be identified quite easily. The vessels, which are visible to the naked eye, have a diameter slightly variable, slightly and gradually decreasing moving from early wood area to the late wood area. (Figure 14 and 15)

On the radial surface they appear of elliptic-roundish shape, isolated or gathered together in groups of two or three, arranged in radial rows and sometimes containing tylosis. (Figure 17)

On the longitudinal surface are seen simple perforations of the transverse walls of the conducting tissues. (Figure 16)

Macroscopic and microscopic characteristics lead to the identification of wood belonging to the Juglandaceae family and in particular attributable to European Walnut (*Juglans regia*) widely distributed in Europe. [5]

Even the wood species, which was made the artefact therefore, indicates mostly a European production of the box.



Figure 11. Particular of the front right corner (about 1: 2)



Figure 12. Particular of the front right corner (about 1: 1)

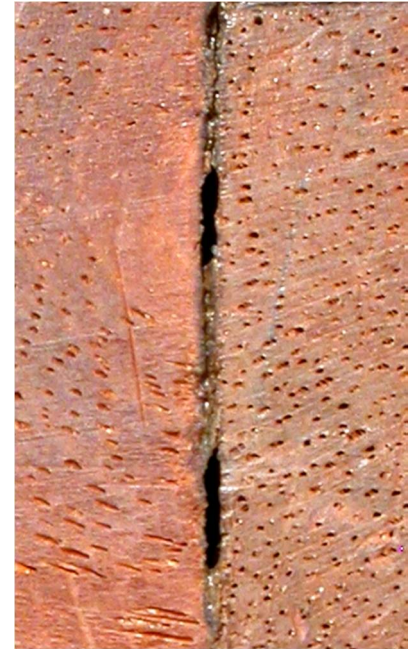


Figure 13. Particular of the front right corner (about 2: 1)



Figure 15. Particular of the front right corner (about 10x)



Figure 14. Particular of the front right corner (about 5x)



Figure 16. Enlarged detail (30x) of the longitudinal surface. Simple perforations of the transverse walls of the conductive tissues are clearly visible.



Figure 17. Enlarged detail (30x) of the transverse surface. The parenchyma rays and multiple combinations of conductive tissue are clearly visible.

5. Stylistic elements

The only useful stylistic elements are constituted by the iron cartouche of the lock and by the interlocking of the walls with dovetail system. (Figure 4)

The iron cartouche of the lock is typically European. (Figure 18) More difficult is to provide chronological indications about the "dovetail" interlocking system because this system was used, especially in Europe, for many centuries from antiquities. (Figure 19)

In any case it is believed that none of these constructive-stylistic elements might indicate a not European craftsmanship of the box.

They were also carried out stylistic research on wooden boxes of traditional Chinese production and none of them looks like, even remotely, to the studied box. (Figure 20)



Figure 18. Particular of the iron cartouche of the lock.



Figure 19. Particular of the dovetail interlocking system.



Figure 20. Example of traditional Chinese wooden boxes.

6. Conclusions

All the possible indicators used, that is: constructive characteristics, species of wood, finish and style, suggest for a European production of the box.

The iron cartouche of the lock is typically of European style dated between the late seventeenth and early eighteenth century.

Elements such as wood species used and the iron cartouche, although uncertain, argue in favour of an Italian production.

It therefore considers that the box could have been made to protect the Bible, arrived in Italy already in poor condition after the long journey from China.

Or the box may have been built a few years after his arrival in Florence because the Bible was in extremely unfavourable conditions of preservation such as to have an almost irreversible degradation (absolutely incompatible with the good of the cassette storage conditions).

For one of these plausible reasons is believed to have been built, between the late seventeenth and early eighteenth century, a box in order to prevent drift of leaves and waiting for a restoration that had to wait more than three hundred years inside the library.

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