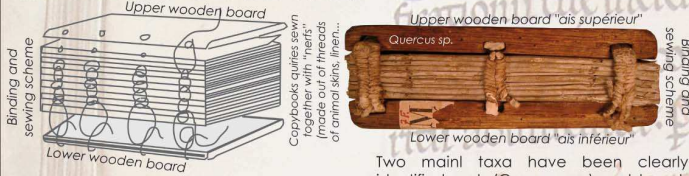


Wood in medieval bindings of manuscripts and *incunabula* of Europe.

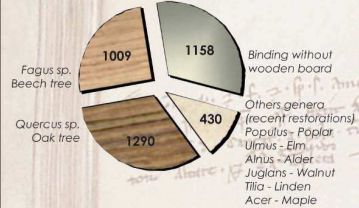
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with the cooperation of CRESSON BOURBONNAUD Alain³

What medieval

Whether hand written (*manuscripts*, 6-16th c.) or *incunabula* (xylography, 1450 - 1500), medieval and post-medieval books (*codices*) produced in western Europe contain wooden parts in their bindings. A nationwide inventory of some French city-owned libraries (bibliothèques municipales) had made it possible to analyze nearly 3,000 *codices* dating back from the 8th-16th centuries (Lavier, 2005).



3,886 wooden boards identified



Dated medieval manuscripts and *incunabula*

Bindings before 1450	Bindings 1450 - 1500	TOTAL	Written sources, notes, binding study, dendrostudy...			
			Quercus sp.	Fagus sp.	Other genera	
1323	620	1943	1364	645	504	215

Two main taxa have been clearly identified: oak (*Quercus sp.*) and beech (*Fagus sylvatica*). The dimensions of those wooden boards vary a lot, from 10 up to 80 cm, with a thicknesses ranging from 5 mm to 2 cm. After selecting the wood, the direction of the fibers was respecting (cleaving), following the most perfect grain, and, concerning oak boards, the areas close to the heart and sapwood have been removed. The hewing of the covers is carefully done, that of the edges is even codified, and the used tools can often easily be identified.

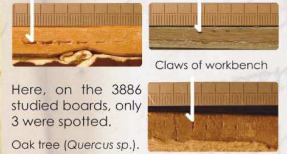
Wood work

Besides the measures on wooden boards and their tree rings for the dating and the dendroprovenance, there is another source of information : traceology. Made on all the surfaces of the boards, this archaeological discipline informs about the steps of the cutting, the shaping, the tools, the gestures and know-how of the craftpeople but also on the way and the duration of uses and wears.

There are very discreet, little visible and often erased marks : claw of bench. There are locatable on the edges of the board during its passage on a workbench. If several different ones are observed, they testify of the number of workbenches and often the quality of the woodworker (apprentice, worker, master).



Der Schreiner, c.1425, Stadtbibliothek Nuremberg, Germany, Amb. 317.2° Foto 21 recto (Mandel I)



Here, on the 3886 studied boards, only 3 were spotted. Oak tree (*Quercus sp.*).

This is the sign these boards were not shaped in several successive steps to obtain the wished dimensions but in only one.



Upper wooden board "ais supérieur" made on beech (*Fagus sylv.*), end of XVth c. Tool traces : passage of the plane to the direction of fibers to limit the previous tools (paring chisel, adze).

Illumination Jean Bourdichon, end 15th c., France National Library of Paris, Manuscripts Dpt. F2374, folio 1v

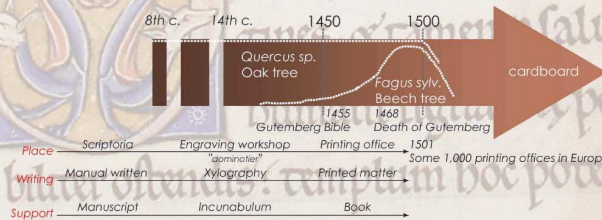


Some dendrochronological results

The evolution of the use of vegetal types in the fabrication of medieval bindings is clear: during the course of the 15th century, the predominance of oak is rapidly reversed in favour of beech. Although officially prohibited in the fabrication of works of art and furnishings as early as the 13th century, the high demand by both religious and secular scholars necessitated the use of beech. It is, among other advantages, technically fenderer to work on in spite of structural weaknesses that make it an appreciated food for xylophagous insects. Gutenberg and cardboard later put an end to wooden bindings.



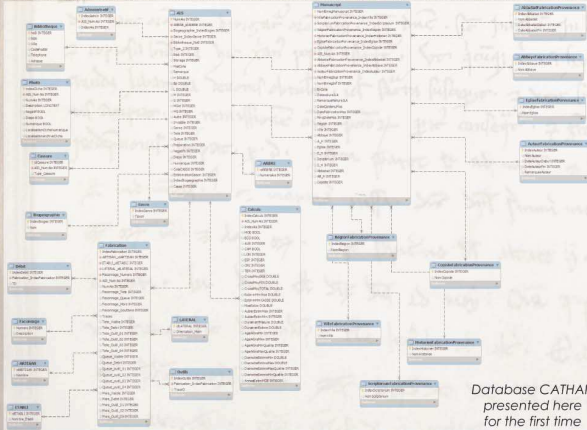
Manuscript from the end of XVth - beginning of XVth c. The binding is original with its leather cover and its boards in Beech tree. 40 x 60 cms x 14 cms thickness



Manuscript from the 10th c. Both original leather cover and oak boards. These books were put in flat and chained because precious. 20 x 30 cms x 10 cms thickness

Database CATHAIS

The work carried out since the 1990s does not stop filling out by the addition of numerous information on the wood but also on the book, its binding or the historic information of order known its place and manufacturing dates, the religious institution of origin, the copyists... All these data are not handleable any more without the help of a database. So, since 2009, we constitute a dynamic, available for consultation and questionable database to try to answer the numerous questions that arise the specialists of the wood and the binding.



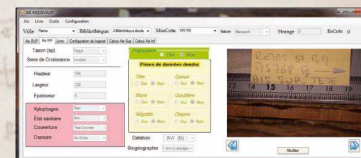
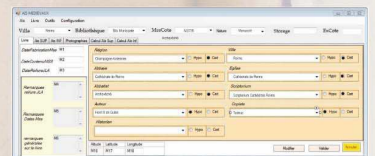
Database CATHAIS presented here for the first time

This plan summarizes the current database consisted of 26 tables containing the diverse categories of data: geographical, administrative, historic, photos, archaeoendometrical, of manufacturing... To date, it represents some 125 information by book for about 2000 books... some 230.000 data!

Data entry form and abilities

Each of the tables materializes by data entry form corresponds to the diverse steps of the book study.

General information is integrated as those administrative concerning the current place of preservation of the book, its shelf mark but also more particular information on the book (city, abbey, scriptorium, copyist) in history and in art history and if these are proved or hypothetical. A photographic database is associated with it.



Every board "ais" is under numerous descriptions, measures and calculations as its plant genus, its sanitary state, its measurements, its cutting, its tools traces, its dendrochronological study (when possible) and all the photos realized by board.

Other forms contain, as for them, that additional information on the restitution of the used tools, gestures, category of craftsmen, their laterality but also supply information calculated automatically from all these data in the domains of the dendrochronology, the dendromorphology, the dendroprovenance in connection with the binding and the history of the book in Western Europe of the North during medieval and post-medieval periods.

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