

ARCHÆOLOGIA MEDIÆVALIS

48

Archeologie van de Middeleeuwen
en de Moderne Tijden
in de drie Belgische gewesten
en aangrenzende gebieden

Archéologie du Moyen Âge
et des Temps Modernes
dans les trois régions belges
et les pays limitrophes

Mittelalterliche und
Neuzeitliche Archäologie
in den drei Belgischen Regionen
und Nachbargebieten



Gent — Gand — Gent

Kroniek
Chronique
Chronik
2025

Dendrochronology in Belgium: big data, challenges and new perspectives

KRISTOF HANECA, SARAH CREMER, PASCALE FRAITURE, VINCENT LABBAS,
CHRISTOPHE MAGGI, CLARA PENAGOS & ARMELLE WEITZ

The growing number of dendrochronological analysis in development-led archaeology, combined with decades of tree-ring research on built heritage and art objects, have accumulated into a substantial dataset of historical tree-ring series. These thousands of accurately dated tree-ring patterns from (pre-)historical timbers open new avenues for interdisciplinary research. However, synthesizing disparate datasets contributed by various researchers is crucial to construct narratives about past human behaviours and socio-economic dynamics that could never emerge from individual projects.

The recently initiated *Deep in Heritage* project already seeks to develop such an overarching dendroarchaeological database. Complementing this initiative, recent studies on larger dendrochronological datasets have provided new insights into timber trade, building dynamics and the historical forest use, addressing topical questions in archaeology, architectural heritage, and forest history. For instance, the timber trade supporting medieval cities involved both local and long-distance networks. Timber from the Meuse river region was primarily used for construction, while overseas transport of Baltic oak (*Quercus* sp.) supplied local markets with high-quality timber assortments valued by carpenters, sculptors, and panel makers. Recent research on medieval wooden coffins in Ypres or floor timbers in Tournai, reveals the use of Baltic wood for every day, single-use purposes, while studies in Nivelles show a multi-species utilization of

locally sourced wood and have produced the first medieval Belgian beech (*Fagus sylvatica* L.) chronology. In historic buildings from the 17th century onwards, on the other hand, the use of imported Scandinavian softwood becomes more prominent.

Dendroarchaeological research on urban heritage in Belgium serves as a model for other European countries, as exemplified by more than a decade of research in Brussels, resulting in an impressive inventory of old frameworks and finishing work for the region. Similarly, in Bruges, the synthesis of more than 25 years of research has revealed dynamic in building activity linked to the social status of the patrons. These studies show how tree-ring analysis can contribute to understanding socio-economic trends within a medieval society and its interactions with forested areas and timber supply strategies. Such observations also relate to ensembles of art objects (sculptures, altarpieces, manuscripts, ...) produced at particular workshops or by specific artists.

Furthermore, as historical timber are remnants of past vegetation, they can help to document trends in woodland exploitation in the past, pre-dating full inventories as the map of Ferraris.

Advancing dendrochronology requires further data exchange, large-scale analysis, and the development and incorporation of innovative methods. This paradigm, centred on deciphering past socio-ecosystems, promises to enhance the field's contributions to archaeological and historical-architectural research.

