

The Revolutionary Development of Frame and Panel Construction in the Context of the Northern Renaissance

AIDAN HARRISON

It is widely assumed that the influence of the Renaissance on British and North European furniture is restricted to the decorative styles borrowed from Italy in the mid sixteenth century. It is argued here that such an assumption ignores the infinitely more influential and enduring legacy in furniture design and construction which resulted from the adoption of ‘new’ tools and techniques around 1400, amidst the innovation of northern Europe’s own Renaissance.

The ‘rebirth’ of framed, panelled construction and the invention of planed linear decoration transformed both the availability of well-made, attractive and economically accessible furniture to a growing bourgeois class and the role, independence and status of the joiner. The fifteenth century was a period when furniture-makers were responding to labour constraints at the same time as the secular market for their products was expanding. The ensuing innovations originated in the Low Countries around 1400, before expanding through northern France, parts of Germany and into the British Isles by 1500.

Unaware of a specifically northern Renaissance, early scholars of furniture were at a disadvantage. For example, writing in 1905, Roe appears to have assumed that all early linenfold was laboriously hand-carved.¹ In 1922 Cescinsky and Gribble acknowledged the fifteenth century arrival of framed construction without questioning how or where something so radical had emerged.² For them it was, for example, mid-sixteenth century copies of Italianate heads carved in medallion roundels which expressed the Renaissance.³ They illustrated early woodworking tools at the Rijksmuseum, Amsterdam, including the simple carpentry items recovered in 1876 from the ruined cabin on the Arctic island of Novaya Zemlya which had been constructed as a shelter after the failure of the Barentsz expedition of 1596-7. Little consideration was given by these authors to the limited carpentry offered by such basic tools. On the subject of specialised planes, they were obliged to resort to eighteenth century Flemish examples in the Rijksmuseum collection.⁴

William Goodman’s very different focus was on the practicalities of tools and their function. In his 1964 *History of Woodworking Tools* he was disappointed by the absence of any surviving examples of the medieval rebating and moulding planes without which, he explained, the vast quantities of framed panelling and ‘linenfold’

¹ Roe (1905), p. 39

² Cescinsky and Gribble (1922), Vol.2, pp. 31–32.

³ *ibid* (1922), Vol.2, p. 39.

⁴ *Ibid*, Vol 1, pp. 22–31.



1 Grooving plane from the Mary Rose. © *The Mary Rose Trust*, 81A3017



2 Rebate plane from the Mary Rose. © *The Mary Rose Trust*, 81A4868



3 Moulding plane from the Mary Rose. © *The Mary Rose Trust*, 81A1425

made in the Low Countries, France, Germany and the British Isles could not have been created.⁵ Just eighteen years later the missing evidence was spectacularly revealed by the discovery of planes of all the relevant types aboard the wreck of the *Mary Rose*, built in 1512 and lost in 1545, when she was raised in 1982 (Figures 1, 2 and 3).⁶

⁵ Goodman (1964), p. 105.

⁶ Gardner (2005), Table 8.3. The major works of Eames and Chinnery pre-date this highly important discovery and its later detailed analysis.



4 Panel from
Linlithgow Palace
bearing the arms
of James V
(reigned 1513–42).
© National
Museums
Scotland, H.KL 61
(photo: Neil
McLean)

The medieval woodworker's ancient toolkit of axe, adze, twybil, hammer, chisel, saw, spoon-drill and occasionally a smoothing-plane had been used for centuries by shipwright, housewright and carpenter alike. Rebates and grooves in timber had been worked by eye with chisel or by dragging the T-shaped grooving or 'groping' iron to form, for example, the channeled stiles which accommodated the chamfered front and back boards of a clamped-chest. The only means of forming shallow linear decoration was the simple scratch-block.

Despite their tendency to warping, shrinkage and splitting, the construction of early chests relied on wide crosscut boards. Those which required extra strength for storing the most precious valuables or to withstand transport were bound in ironwork which, in elite applications, often took sinuous decorative forms. Refined chests serving a more static, typically ecclesiastical role, were decorated by the woodcarver in the blind arcading and styles copied directly from the flamboyant and perpendicular windows created by contemporary stonemasons. In the case of static furnishings which required a wider decorated area, the edges of the thick boards were pegged together prior to marking-out and carving the whole facade in a single piece. One example is the 'Linlithgow panel' at the National Museum of Scotland. Its three substantial boards, assembled horizontally, are deeply carved to resemble vertical panels within simulated 'framing' and intermediate 'muntins' (Figure 4).

These techniques, largely necessitated by the limited range of available tools, were extravagant in their use of wood and evidently demanded meticulous drawing and skilled carving; as a result such costly work was restricted to the highest-status applications. The decoration of secular boarded chests was therefore largely limited to chip-carved designs based on roundels, simple patterns achieved with a set of dividers or, like the famous 'Fares' chest at the Victoria and Albert Museum, carved with raised scrolling vines and foliage, perhaps inspired by ornate blacksmith-work.⁷

The second half of the fourteenth century had seen successive waves of the Black Death cause an estimated 60 percent collapse in the population of western Europe. Amongst its drastic social consequences was a major shortage of labour, including that for felling, transporting and working wood. The ensuing challenges of inflated costs and a newly-wealthy, but price-conscious urban merchant-class busily building and furnishing their new homes is likely to have driven innovation and invention in all trades, among them furniture-making.

The production of simple furniture by local carpenters, some of it naively carved, continued for generations in more remote areas and at lesser levels of society. However, towards the end of the fourteenth century, a division took place between the trades of these *charpentiers* (carpenters) using more rustic constructional techniques and those who made *bois menu* (small wooden items) — the *menuisiers* and *huchiers* — with the development of the tools and skills to make more refined furniture like chests and hutches. Initially the *queue d'aronde*, the dovetail joint, led to stronger travelling chests, dispensing with heavy, costly ironwork.⁸

A much more dramatic transformation in the joiner's repertoire occurred around 1400 with grooving, rebating and moulding planes of the types found aboard the *Mary Rose*. This was a genuine 'Renaissance', of forgotten tools and of the framed and panelled construction they permitted, both lost to Europe since the fall of imperial Rome. Goodman was among the first to reveal this historical gulf, referring to a Roman moulding plane at the Cairo Museum and a Roman door of framed and panelled construction at Bristol Museum.⁹ Roger Ulrich has recently explored every aspect of Roman woodworking, its tools and products, along with the full range of *runcinae* (planes), both in the form of archaeological discoveries and their depiction in sculpture and art.¹⁰ In his analysis of the charred remains of the furniture excavated at Herculaneum, Stephan Mols discusses the role of panelled *armaria* (cupboards) and textual references to forms of panelled furniture and their components; their *tympani* (panels), *scapi* (stiles) and *impagi* (rails). He emphasises the expertise of the cabinetmakers who made the more sophisticated *aedicula*, a particularly refined cupboard with a classically pedimented front and extensive moulding and mitreing, an elite form which appears to have served both as a shrine or as a book-cupboard.¹¹

The most compelling illustration of Roman joinery is in the 'Ezra' frontispiece of the vast 28 cm thick, 34kg Codex Amiatinus bible which is held today at the Medici

⁷ V&A, W.20-1913.

⁸ Maffei (1930), pp. 6–7.

⁹ Goodman (1964), pp. 42, 53 and 105.

¹⁰ Ulrich (2007), pp. 42–43, 344–45.

¹¹ Mols (1999), pp. 61, 94.



5 Ezra from the Codex Amiatinus Florence, *The Biblioteca Medicea Laurenziana*, ms. Amiat. 1, f. Vr Reproduced with permission of MiC: Further reproduction by any means is prohibited

Library in Florence (Figure 5). It was copied in minute detail at the scriptorium at Jarrow, Northumbria, *c.* 700 from the much earlier Codex Grandior, an identical late-Roman bible.¹² The image's depiction of a sophisticated framed and panelled aedicula or book cupboard is reproduced in such detail that the titles of the nine volumes of the Old Testament are still largely legible. Another aedicula is depicted in the mosaics of the mausoleum built at Ravenna in 425–450 for Galla Placidia, daughter of Emperor Theodosius.¹³

It might be assumed that Rome's lost skills in panelled joinery would have re-emerged as part of Italy's Renaissance. However, the absence of surviving examples and the lack of its depiction in Italian artworks makes this unlikely. Only a solitary

¹² The Codex Grandior was rescued for his library in Calabria by Consul Cassiodorus prior to the sack of Rome by the Ostrogoths in 546. Bede records Benedict Biscop and Abbot Ceolfrith returning from Rome in 680 with 'an immeasurable quantity of books of all kinds'. Two of three codex copies made at Jarrow were intended for Northumbrian monasteries while Ceolfrith set off for Rome with this, the third, perhaps as a gift for the Pope.

¹³ Hamel (2017), chapter 2. Marsden (1995), pp. 91–98.



6 Altarpiece by Robert Campin, Tournai, c. 1427–32. *The Metropolitan Museum, New York, 56.70a-c*

panelled Savoyan *cassone* of 1500 from the far north-west near today's French border is illustrated by von Bode.¹⁴ Artworks such as Menabuoi's 1370 *Birth of the Virgin* at Padua Cathedral show the typically Italian arrangement of 'panelled' chests surrounding the bed. On close inspection these are in fact of refined boarded construction decorated with applied, mitred 'framing'. A later example is Crivelli's 1486 *Annunciation* at London's National Gallery where the Virgin's desk is a plain boarded structure, its 'panels' formed by finely-incised carving.

Italian Renaissance furniture was principally constructed from dovetailed boards, often decorated with applied moulded cornices, which does suggest that moulding planes were in use.¹⁵ However, they may not have been employed by Italians; the most skillful joiners of the Italian Renaissance were immigrants from the Lower Rhineland and Flanders.¹⁶

It is impossible to define any specific reason for the Renaissance in joinery which occurred in Flanders a thousand years after it had effectively disappeared with the fall of Rome. Apart from the sophisticated cultural *milieu* amidst which it emerged, another factor was perhaps the ready availability of finely-grained Baltic oak boards. While it is impossible to identify a more precise date for this 'rebirth' than early in the fifteenth century, an important example of its early, high-status use lies in the typically meticulous northern Renaissance detail of prominent Flemish artist Robert Campin's *Annunciation Triptych*, painted in 1425–28. It is today exhibited at The Cloisters of the Metropolitan Museum, New York (Figure 6).¹⁷

¹⁴ Bode (1921), pl. 124.

¹⁵ Thornton (1999), p. 92.

¹⁶ Thornton (1999), p. 101.

¹⁷ Known as the Merode Altarpiece, having formed part of that Flemish noble family's collection.

Measuring just 118 cm by 65 cm tall, it is the earliest Renaissance Annunciation scene to be both set in and created for contemplation in a specifically domestic setting. The spiritual and, equally important, the secular messages a donor wished his devotional artwork to convey were customarily specified to the artist.¹⁸ It was therefore natural that wealthy Mechelen cloth-merchant Peter Inghelbrecht ('brought by an angel') should have chosen the Annunciation for display in his home. As the work was painted around the date of their marriage, the name of his wife, Margarete Shrynmaker ('cabinet maker') may equally have influenced the choice of iconography. Their piety is expressed in the right-hand panel by the unconventional choice of Joseph in his workshop, while perhaps also creating a convenient secular association with her name.

For the central panel, in contrast to the luxurious textiles and drapery typically used to emphasise a wealthy private donor's status, this setting is defined by the bare, but refined domestic oak furniture: the sixteen-sided, tilt-top table and, in pride of place, the unoccupied *wendlys* or *keerlys* 'swinging back' bench. In contrasting this example with every other image of such benches found in his extensive research, Jozef de Coo describes it as 'the domestic bench *par excellence* of the day'.¹⁹ In place of the ubiquitous plain cross-bar which serves as the reversible backrest in all the others, this example boasts a pivoting, yet full-height back of lightweight panels with quatrefoil-centred lozenge tracery, pierced to enhance its beauty in both configurations; all held within the sophisticated, moveable, joined and pegged framework.

The complex theological explanations proposed by de Coo and other art historians for the fact that the bench is unoccupied may overlook a more personal explanation. The pious donor is paying homage to this heavenly event by enshrining it amidst his most precious worldly goods within his own home. In his medieval vision the Virgin herself, absorbed in her book, is resting against his own 'domestic bench *par excellence*' as the Angel Gabriel suddenly materialises to make his miraculous announcement (Figure 7). What could possibly better express the prestige Inghelbrecht associated with possession of such a revolutionary object?

Irrespective of the iconographic debate over this particular example, the grooving of the bench's framing demanded the availability of a plough plane with a narrow iron. The panels used in early examples in the new technique are typically 20–24 mm thick to accommodate their deep carving, making a rebating plane also necessary, both to accurately define the size and depth of the central 'field' to be carved, and also to thin down all four sides of the panel's reverse, ensuring that it will accurately slot into the 8–10 mm channel planed into the surrounding framing members. The resulting rebated 'shoulder' is typically evident on the reverse of fifteenth- and early sixteenth century panels.²⁰

The next innovation in joined panelling was not a rediscovery of ancient techniques, but the invention of a process of applying hollow and rounded moulding planes to the rebated panel's raised 'field', while it was clamped to the workbench, to form 'linenfold'. Despite the need for chisel-work to finish the ends of each panel's moulded linear decoration, the process was much faster and less costly than the traditional hand

¹⁸ Ridderbos (2022), pp. 20–22.

¹⁹ De Coo (1981), pp. 114–16.

²⁰ Chinnery (1979), p. 115; Chinnery (2016), p. 88.



7 Detail from the Altarpiece by Robert Campin. *The Metropolitan Museum, New York, 56.70a-c*

carving of gothic designs. At last the joiner was able to display his own artistry, independent of the blacksmith and the carver!

From the evidence both of dateable examples and their contemporary representation in artworks, the earliest of these revolutionary panels to be decorated by the use of moulding planes date from around 1450 with a single raised ridge down their centre. Both ends of the planed central ridge are shaped into an 'ogee' to emulate the appearance of a face-down sheet of pleated parchment prior to binding a 'gathering'



8 (above) Planed parchment panel, English, c. 1500. *Period Oak Antiques*

9 (right) Carved 'parchemin' panel, English, c. 1500. *The Victoria & Albert Museum, 8176-1863*



of them into a manuscript. Among the physical survivors is a door at Damme Town Hall in Belgium, dating from 1464.²¹ These first panels were aptly described by furniture historians as *parchemin plissé*. Confusingly, an entirely different, more complex type of panel has, both in French and English, acquired the 'parchemin' name, perhaps because it shares the ogee arch at either end, but certainly lacking any resemblance to *parchemin*. This entirely hand-carved 'complex parchemin' appears to have been a slightly later and certainly a more skilled and costly production (Figures 8 and 9).

Simple parchment was followed around a generation later by another planed design which contrived to represent a linen napkin lying on a flat surface with a raised central crease and each side tucked into soft 'linenolds' of cloth. Neither *plis de serviette* nor its English equivalent 'linenfold' appear to have been contemporary terms, yet the visual model is unarguable. After creating the required profile with convex and concave moulding planes, each end was identically shaped with curved chisels to emphasize its imitation of a gently folded, layered napkin. This original linenfold is aptly described by Chinnery as 'full, curly and rich', its appeal enhanced by the deep moulding enabled by the thick boards used for early panels (Figure 10).²²

²¹ Eames (1977), pl. 72A.

²² Chinnery (1979), p. 420; Fig. 4:19. Chinnery (2016), p. 380.



10 Planed linenfold panel, English, c. 1500.
The Victoria & Albert Museum, Circ.51-1921

Carving did not become immediately redundant: both the costly hand-carved ‘complex’ parchemin and traditional gothic panel designs continued to be used into the sixteenth century both in ecclesiastical surroundings and on the front of high status furniture, the latter style frequently highlighting a sacred or personal central monogram or a coat of arms.²³ They were often combined, by that date, with the simpler ‘parchment’ and ‘napkin’ linenfold in vertical and occasionally horizontal alignments on the side panels, following the medieval tradition of differing decorative treatments in such applications.²⁴ These planed forms were also widely used on wall panelling. ‘Linenfold’ has become a generic term to include a range of more stylized linear planed profiles produced well into the sixteenth century, bearing little resemblance either to parchment or to cloth. Some mimic vertical hanging draperies, occasionally with a decorative upper border, the lower end of the ‘curtain’ running to the bottom of the panel, conveniently reducing the need for costly chisel-work even further.

These advances required not only the new tools and techniques, but the critical mass of organization, dynamism and skills of a cultural and trading centre of sufficient wealth to provide a consistent market. This explains their first appearance in the Low Countries, the northern Renaissance’s affluent hub of commerce, innovation and skills. The artworks which show the earliest known examples of this panelling are Flemish and the likely sources of its artistic inspiration also lay there. These included the region’s renown for manuscripts and textiles, the importance of symbolism in Flemish art, and the fact that these products were potent signifiers of status for the wealthy *bourgeois* like Peter Ingelbrecht. This can only have enhanced the appeal of mimicking the costly luxuries of parchment and drapery within the new panelled furniture, an imitation which required the same new moulding planes as the frames of the oak panel-painted artworks for which the region and period are famed.

²³ Eames (1977), pl. 61b.

²⁴ *Ibid.*, pp. 65 and 274, pls. 32 and 61.

Just as it is impossible to define the specific date of any such anonymous invention, the location of the precise ‘re-birthplace’ of panelled construction and the course of its subsequent geographical spread are equal matters of conjecture. A likely candidate is Antwerp which was not only the region’s main port, where large quantities of Baltic oak were landed, but by the fifteenth century had replaced Venice as the centre of the (European) world economy and the focal point of the art world. In 1460 an enormous twice-yearly market, the *Onze-Lieve-Vrouwepand*, was established in the city. Surviving civic documents record the sale there of pulpits, benches, *prie-dieux*, organ-cases, easels, cupboard-beds and other furniture. Antwerp’s ‘*schrijnwerkers*’ – cabinet-makers – also supplied the artists, preparing oak panels for their paintings and framing their completed works.²⁵ These vast markets were also attended by the sculptors and goldsmiths of Antwerp, the tapestry workshops of Arras, Tournai and Brussels and the studios of the scribes, miniaturists and artists of Bruges and Ghent, not to mention the suppliers of their raw materials such as linen, vellum and oak. The first mention of the Antwerp joiners’ guild is in 1477.²⁶ It therefore seems reasonable to propose that the models for framed panelling and the inspiration for parchemin and linenfold panels developed amid this highly-charged cultural and commercial community of skills. Joiners are likely to have been inspired by the visual and tactile impressions of framed panel-paintings, textiles and vellum. This argument is supported by the near-ubiquity of *parchemin* panelling in the late fifteenth century interiors depicted by the manuscript illuminators of nearby Ghent and Bruges.²⁷

The spread of these new techniques to Northern France, England, Scotland and parts of Germany was a logical progression. Planes adapted to the running of rebates and mouldings were readily intelligible to joiner, *menuisier*, and *schreiner* in their emerging workshops. Laurence Fligny’s extensive survey of late fifteenth and early sixteenth century furniture made in Picardy illustrates multiple variations of *parchemin* and *plis de serviette*.²⁸

The initial adoption of the new framed and panelled forms, together with the decorative styles that emerged with them, is likely to have been at the highest levels of ‘estate’. This was not just because royalty and the greatest nobles were the instigators of new fashions, but also because their several domains were increasingly occupied by household staff on a permanent basis.²⁹ The itinerant lifestyle of the nobility, as landowners in multiple locations continued, yet the security of property generally improved. Gold and silver plate and rich textiles were still packed up and moved from house to house but a market was born for attractive wooden furniture which was increasingly left in place. Whereas large items such as beds and tables had to be demountable in previous centuries, they could now be built in a manner that implied immobility. Furniture in these new styles was equally well-suited to the homes of the mercantile elite of the Low Countries and was adopted in wealthy households throughout north-western Europe. Initially, the new techniques may have been spread by itinerant craftsmen employed by senior clerics and nobles, but a growing market

²⁵ Ewing (1990), p. 566.

²⁶ Woods (2007), pp. 33–34.

²⁷ Oledzka (2016).

²⁸ Fligny (1990), pp. 58–78.

²⁹ Woolgar (1999). p. 197.

for sturdy, decorative furniture gradually became rooted in affluent towns, drawing on a gentry hinterland. In contrast the Flemish joiners who took their skills south of the Alps adapted their skills to Mediterranean tastes and the working characteristics of walnut, cypress, lime, pear and chestnut and, instead of planed panels, decorated it with *intarsie*: inlaid bone and ivory.

From his insular perspective, Roe identified an evolution of the panelled chest from the early ‘mason’s mitre’ form to ‘Elizabethan’ and ‘Jacobean’ styles with progressively lighter frames and larger, more slender, chamfered panels.³⁰ These developments are likely to reflect both a decline in the traditional priority of strength for security and portability, and an ever-widening market, with a clientele that was individually increasingly affluent yet with ultimately limited means. The craftsman’s time and the cost of materials may have been secondary when making furnishings for a grand seigneurial household or a great abbey, but the evidence of surviving specimens suggests that simpler, less costly forms of panelled construction and decoration spread in a more commercially-minded and rapidly-growing middle-class market.

The innovative joinery developed during the artistic revolution of the northern Renaissance remained dominant for almost three centuries. It was finally supplanted by yet more intricate methods focused on veneering and drawer construction, the joiner’s primacy eventually usurped by the cabinetmaker.

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BIBLIOGRAPHY

- BODE, W. von, trans. M. Herrick, *Italian Renaissance Furniture* (New York: Helburn, 1921).
 CESCINSKY, H. and GRIBBLE, E., *Early English Furniture & Woodwork*, II (London: The Waverley Book Company Ltd, 1922.)
 CHINNER, V., *Oak Furniture, the British Tradition* (Woodbridge: Antique Collectors’ Club, 1979/2016).
 COO, J. de, ‘A Medieval Look at the Merode Annunciation’, *Zeitschrift für Kunstgeschichte*, 44:2 (1981).
 EAMES, P., *Medieval Furniture, furniture in England, France and the Netherlands from the twelfth to the fifteenth century* (London: Furniture History Society, 1977).
 EWING, D., ‘Marketing Art in Antwerp, 1460-1560: Our Lady’s Pand,’ *The Art Bulletin*, 72:4 (1990), pp. 558–584.
 FLIGNY, L., *Le Mobilier en Picardie 1200-1700* (Conde-Sur-Noireau: Picard, 1990).
 GARDNER, J., *Before the Mast: Life and Death Aboard the Mary Rose* (Oxford: Oxbow, 2005).
 GOODMAN, W., *The History of Woodworking Tools* (London: G. Bell and Sons, 1964).
 HAMEL, C. de, *Meetings with Remarkable Manuscripts* (New York: Penguin, 2017).
 MAFFEL, E., *Le Mobilier Civil en Belgique au Moyen Age* (Namur: Wesmael-Charlier, 1930).
 MARSDEN, R., *The Text of the Old Testament in Anglo-Saxon England* (Cambridge: Cambridge University Press, 2005).

³⁰ Roe (1920), pls. IX, X.

- MOLS, S., *Wooden Furniture in Herculaneum: Form, Technique and Function* (Amsterdam: J.C. Gieben, 1999).
- OLEDZKA, E., *Medieval and Renaissance Interiors* (London: The British Library, 2016).
- RIDDERBOS, B., 'Choices and Intentions in the Merode Altarpiece', *Journal of Historians of Netherlandish Art*, 14:1 (2022). DOI: 10.5092/jhna.2022.14.1.2
- ROE, F., *Old Oak Furniture* (London: Methuen & Co, 1905).
- ROE, F., *A History of Oak Furniture* (London: The Connoisseur, 1920).
- THORNTON, P., *The Italian Renaissance Interior, 1400–1600* (London: Weidenfeld and Nicholson, 1999).
- ULRICH, R., *Roman Woodworking* (Newhaven & London: Yale University Press, 2007).
- WOODS, K., *Imported Images: Netherlandish Late Gothic Sculpture in England, c. 1400–c. 1550*, (Donington: Shaun Tyas, 2007).
- WOOLGAR, C., *The Great Household in Late Medieval England* (Newhaven and London: Yale University Press, 1999).

