What's the Use of a Medieval Desk? Reconsidering a Landmark of Early Furniture at the V&A

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Desks doubtless had their origin in the old monkish establishments, since in the early Middle Ages the cowled brethren were the scribes of the community. In England similarly, in the case of chairs, we have the book-rests and reading-desks attached to the choir-fittings of our cathedrals and minsters, but apart from these instances there is a lamentable lack of homemade desks of the earlier periods. The wealth of Gothic desks such as we see in missal paintings, or, to come to a modern authority, occasionally in the book-illustrations of that wonderful artist and antiquary De Neuville, have hardly a counterpart in this country. At the Victoria and Albert Museum, however, is an English writing-desk of the fifteenth century, carved with Perpendicular arches, simple in design, and solid in construction (No. 143, 1898).

Thus wrote Fred Roe in 1908, the first published reference to a medieval oak desk at the V&A (Figure 1 A–C), at a time when early British furniture barely featured in the museum's collection at all.² The piece in question had arrived in South Kensington ten years earlier with no illustrious reputation, having been spotted by a curator in 1898 and bought for the modest sum of £12 from C. W and J. H. Brown, 'Antique Furniture and China Dealers' in Oxford Street, apparently just one of London's many workaday antiques shops catering to a wide variety of tastes. What the museum characterised as 'a very rare example of English Church furniture' of around 1500, whose 'value consists in its historical character'3 was vigorously presented by Charles Tracy in 1986; in re-dating it 1375–1400 he calls it 'an extremely rare example of a medieval desk-cum-book cupboard... without doubt authentic and English', drawing comparison with woodwork at York, Lincoln and Chichester cathedrals.4 Its display

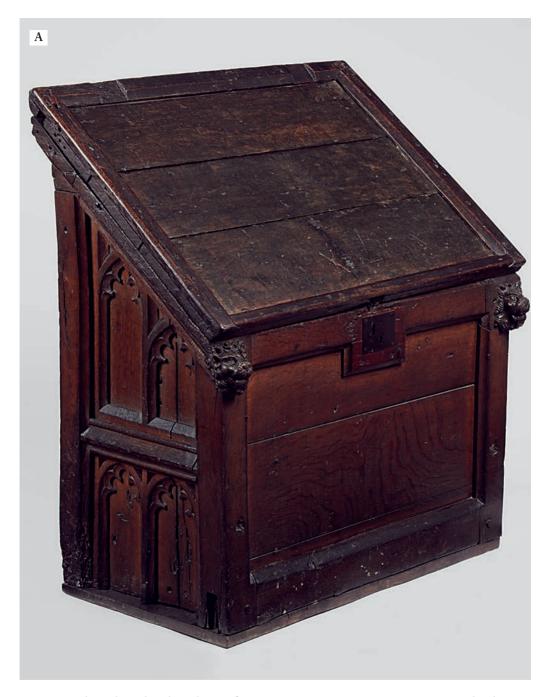
¹ Roe (1908), p. 194-5.

² V&A: 143–1898. On the development of the V&A's furniture collection, see Wilk (1996), pp. 13–18.

⁴ Tracy (1988), no. 314, plates 114 a, b, c. Although the desk has been mentioned and illustrated in several survey publications, it has received little focussed attention, and was not included in the survey undertaken by Penelope Eames. Eames (1977). For bibliographic references see the desk's online entry at

http://collections.vam.ac.uk/item/O131494/desk-cupboard-unknown/

³ V&A nominal file C. W. and J. H. Brown. The museum bought various small items of metalwork, woodworking tools and woodwork from Charles Brown at 21 Oxford Street between 1891 and 1907. J.H. Pollen, in a Dept. of Science and Art minute paper of 28 February 1898 noted 'A Church reading desk of the early years of the 16th century perhaps close of the 15th — a good deal worn and roughly repaired. A very uncommon object and its value consists in its historical character'. The desk was selected from Brown's shop stock by A. B. Skinner and another individual whose name is illegible. A museum memo of 21 February 1898 notes that 'the reading desk with Gothic carving is a very rare example of English Church furniture which is exceedingly difficult to obtain as so little furniture is left of the period to which this belongs. The lower portion is of the 18th century and should be removed.' As the elm baseboard is not at all characteristic of treatment by the museum in the early twentieth century, it appears that this 'lower portion' was not in fact removed. The loss of the original base, and that impediment to the legibility of the physical design may be one reason that the desk is not better known; another, given the tendency to associate any substantial early furniture (or other artefact) with a famous historical name or place, however tenuously, may be the bald lack of any provenance for the object before its appearance on Oxford Street in 1898.



Desk cupboard, oak with iron fittings, H: 98cm, W: 86.8cm, D: 56cm, England, 1430–1450. Victoria and Albert Museum, London (V&A: 143-1898)
 A) view of back and proper left side B) view of front and proper right side C) front view © Victoria and Albert Museum, London





in the Dr Susan Weber Gallery of Furniture from 2012, after several decades in store, provided an opportunity to reconsider attribution, form and function. Was it for reading or writing (or both), was it for personal or institutional use, for example a writing desk from a monastic scriptorium or a lectern from a chapter house or refectory? In Europe before 1455, a desk was envisaged not in terms of printed books, but manuscripts and manuscript books, produced by hand with long labour at a wooden slope. We do not know what kind of desk Chaucer used when composing his texts in the late fourteenth century but a writing slope seems to have been the preferred standard for both scholars and professional scribes (scriveners) when dealing with sheets of parchment or paper and bound volumes, although not a prerequisite to those 'medieval clerks [who] travelled from place to place, carrying pen and ink with them'.7 Might the V&A desk be reappraised as a unique survivor from the founding years of English literature, as well as a landmark in early furniture? In the few, brief notices that it has received, a common thread (alongside the rarity of surviving desks) is the frequency with which desks are prominently illustrated in broadly contemporary manuscripts, but this wealth of evidence has not hitherto been explored in relation to the desk.8 This article seeks to explore how the desk might have been used; it considers the pictorial evidence after examining the desk's design in the light of new dendrochronological analysis, and reviewing other examples of surviving medieval book furniture.

⁵ Prior to its inclusion in the Susan Weber Furniture Gallery (rooms 133–135), the desk was displayed from at least the 1920s, in room 21 (window side), and by 1970 in room 25; it was in store by 1983.

⁶ On the material culture of writing see Rosenfeld (2002).

⁷ Ormond (1981), p. 13.

⁸ See for example Dietrich (1986), pp. 15–16.

DESIGN AND CONSTRUCTION

The desk is a free-standing oak unit reminiscent in form of a modern lecture theatre lectern (height: 98 cm; width: 86.8 cm; depth: 56 cm). It now reaches to about adult hip height (98 cm) but at some time before 1898 was cut horizontally across the base or footing, and an elm board nailed from underneath. The expansive sloping top, angled at 38 degrees to the horizontal, is comfortably wide enough to accommodate an open folio volume. Bordering all four sides of the slope runs a cavetto moulding (originally along the top and sides, but not the lower edge where a replacement in stained softwood has been added, probably shortly before it entered the museum); along the top edge two small sections are neatly cut away. The sloping top is now dark with age and wear that includes heavy scratching of uncertain age, notably a large, deep, deliberate X, and a grid shape scratched near the top. To

The slope can be fully raised on two original iron hinges at the top (Figure 2).^{II} Screwed to the underside are three modern iron rods (two short, one long) which allow the lid to be propped narrowly or fully open, but it seems clear that a single, metal prop (now missing) was nailed to the left-hand, fixed slope, which would have supported the lid sufficiently open to allow comfortable and practical access. The current, off-centre lock (and remnant of a corresponding hasp) appears to date to between 1850 and 1900 and is set on a modern build-up of softwood, but there are traces of an early, possibly original, hasp nailed to the top of the lid, serving a larger, central lockplate. A metal lock was a standard feature of good quality late medieval chests; the relatively high cost of metalwork in the period means that it was never an insignificant addition.

With the lid raised, an open cavity is revealed, and running just below the hinges a horizontal groove which aligns with a mortise at either end, and would have located a narrow shelf. Such shelves have been noted inside fourteenth- and fifteenth-century continental chests (but are not usual in English examples) and must have been very useful to keep small items close at hand. Lower down inside the body of the desk paired rebates have been cut into the front stiles (though crudely) at 4 inches and 8 inches (20 cm) above the current bottom: in the upper position a modern elm shelf has been inserted on hinges, and supported on an internal batten (see below) but in the

⁹ At 63 cm high x 86 cm wide (including the raised edging), the V&A slope is larger than fifteenth century folio volumes which are typically 12 inches closed and 25 inches (64 cm) open.

¹⁰ Such marks *might* have been meant deliberately, for example as apotropaic symbols, but as a knife was required when writing with a quill (until the introduction in the nineteenth century of mass-produced steel nibs), and to erase mistakes on parchment, they might also be casual. The lid also shows various disfigurements that are difficult to explain: two small mortises at the top corners of the lid might have held fittings for a secondary lectern, lighting or even the sort of sand-glass customarily depicted in a scholar's study; but raising the desk lid would cause these to tip, compromising their effectiveness.

¹¹ These are long, plain and very thin in section, and are countersunk and nailed. Both hinge pins are replacements. For comparative metalwork, see Geddes (1999), pp. 218–21.

The mortise slots are 40 mm wide by 25 mm deep, the groove 25mm high and varying in depth from just 2mm in the middle to just over 4 mm at each end; the care of cutting suggests that the shelf was an original design feature, fitted during assembly of the desk. The shelf depth (probably shallower at its ends) is unlikely to have been deeper than two inches (around 50mm). For similar shelves inside chests (known in Germany as hohe kante) see Stülpnagel (2000), Pickvance (2007), and a French chest, c.1475–1500, Victoria and Albert Museum, V&A:Circ.62–1909 (https://collections.vam.ac.uk/item/O121811/chest-unknown/ accessed 7/3/2021). All of the chests referenced are continental or show marked continental influence.

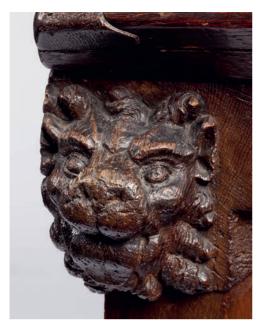


2 The desk open, showing in the left-hand diagonal rail the channel that originally held a lid support, and the horizontal groove that originally located a shallow shelf. © *Victoria and Albert Museum*, *London*

lower position nothing remains. These would have created an upper and a lower compartment, the latter inconspicuous and accessible only by removing the contents of the upper. Their potential usefulness is clear but their roughness suggests that they are not original and that the desk originally housed only a single, deep-bottomed compartment.

The desk sides and front present at first sight an impressive effect of architectural unity (though abruptly truncated at the base), with two tiers of blind tracery contained within a series of mouldings.¹³ A powerful sense of vertical ascent, defined by the angle of the sloping lid, is balanced by the horizontal rhythm of arcading. By contrast, the

¹³ In its relatively pale coloured oak, the desk differs from much early furniture to which dark varnishes have been applied to protect the timber from pest, conceal restorations, or conform to a preferred dark appearance. Inside the desk are drip marks indicative of liquid surface stripping; close examination of the crevices of the woodwork reveals tiny traces of traditional orangey-red and whitish pigments (the latter possibly a ground layer), but unfortunately there is not enough to draw any conclusion from this beyond the observation that the desk was at one time painted, and effectively stripped before 1898. Samples were taken and examined by Dr Lucia Burgio (V&A Science Section) using optical microscropy and Raman microscopy in 2011 (report, Furniture Collection object file).





3 Details showing the two lion masks. © Victoria and Albert Museum, London

back — where a reader would stand or sit – presents two large planes: the upper slope on which a text would be placed, and below it a large, plain 'panel' (Figure 1A). Across the structural midriff these are linked by two arresting, finely carved lion masks (Figure 3). However, although the three faces of tracery are comparable in the thickness and quality of timber, the apparent unity is not all it seems. 14 The two sides actually differ in design (Figure 4), the right (proper) commensurate in design and finish with the front, the left (proper) simplified in design and less refined in carving: the right side has triple windows with embattled 'feet' and the diagonal framing member above is cut with a series of three mouldings (concave, ogee and half round) which match the front upper rail. The left has double windows without embattlement, and the diagonal only a concave moulding. This discrepancy is puzzling since the front and back of the desk show no obvious signs of lateral alteration, the quality and dimensions of the desk framing on both sides (other than the mouldings) are essentially identical, and the tracery on both sides shows assured depth of cutting and plentiful setting-out marks (Figure 5). Unless the desk were created from reused and slightly mismatched parts, for which strong evidence is lacking, the most plausible explanation may be of a modification of design during construction, perhaps resulting from a change in its envisaged setting from one where the left side of the desk would have been less conspicuous.15

¹⁴ The thickness of wood used for the tracery is 23mm, carved back to 6-7 mm at its thinnest.

¹⁵ A further detail is that the sawn edges of the lid boards are less smooth on the left, raising the possibility that a longer lid (perhaps twice the width of the present) was originally to serve a double unit but that this was abandoned or converted at an early date. I am grateful to Chris Pickvance for his observations on this aspect.





4 Proper right side and proper left side. © Victoria and Albert Museum, London



5 Detail of the proper right side showing setting-out marks for the carved tracery. © Victoria and Albert Museum, London

All commentators have assumed that the desk has been reduced in height; at the bottom woodworm damage is visible which may explain the radical surgery and elm repairs. These could have been effected at almost any time before purchase by the V&A in 1898 but the plainness of the repairs and hand-made nails suggest the seventeenth or eighteenth centuries when the desk would already have been viewed as an ancient curiosity. 16 Seen from the front, the abrupt transition of arcading to the elm bottom board now in place suggests the removal of the embattlement of the lower storey of tracery (about 6.5 cm) and some sort of moulded footing beneath.¹⁷ Seen from the back it is less easy to visualise a substantial continuation below the intact bottom rail, but a plinth or platform that continued underneath the user's feet, providing insulation from the floor and additional rigidity to the unit, is sometimes depicted in medieval illustrations. On the back uprights of the desk, about 8 inches above base level, broken off wooden dowels may be evidence of brackets to such an extension. 18 The question of what is missing is important to understanding the original height and function of the desk: specifically as to whether it was used standing or seated, and for reading or writing (or both) as discussed below.

THE CONSTRUCTION OF THE DESK

How was the design of the desk realized in terms of construction? Was it essentially a variation on either of the two types of northern European medieval woodwork bearing carved decoration that have survived in relative quantity, built-in church choir stalls or moveable chests of various sizes and sometimes ingenious methods of construction? Stalls, though variously configured, generally consist of a long bench with vertical back rest, or a series of individual stalls paired with a full-length sloping lectern top; they frequently exhibit both impressively precise joinery and fine carving. The desk must have presented to its designer a series of challenges to be resolved: to be both container and platform, combining a hinged, sloping top with the requirements of ergonomic functionality; to look satisfyingly finished from all four sides. It is perhaps not surprising therefore that the desk is more complex structurally than it first appears (Figure 6). The hinged lid is constructed relatively simply using three butted and doweled boards, under which are nailed the long iron hinges, apparently original, whose anchoring ends are tenoned into the top rail of the desk. The care with which the design was developed is revealed by the moulded edging around the lid: along each

¹⁶ Currently the desk sits on a wide elm one inch board to which it is nailed from underneath using handmade nails. Just above the base, inside the lower compartment along the front and sides, three oak battens have been added inside the front and sides using modern screws from the outside, so as to stabilise the base section. Regarding the removal of material, Tracy wrote that it had lost 'the lower part of its panelling and its base.' Tracy (1988), pp. 185–87. Dietrich suggested, without further clarification, that the missing parts included both an upper section and, underneath, a lower section that would have contained a cupboard door. Dietrich (1986), pp. 15–16.

¹⁷ It is possible that more material was removed but increasing the original height would have made it more difficult for a user to reach down to the bottom of the internal cavity. Furthermore, if the desk were cut down because of damage through pest or damp, it seems unlikely that this would have extended more than a few inches, or that a restorer would have removed more than was necessary.

¹⁸ On the side of each back upright the mortise housing the bottom rail tenon is exposed, damage that presumably occurred as a result of the removal of the footing and nailing the elm base board.

side a separate batten was applied but along the top, the moulding was pre-carved from the solid thickness of the uppermost board.

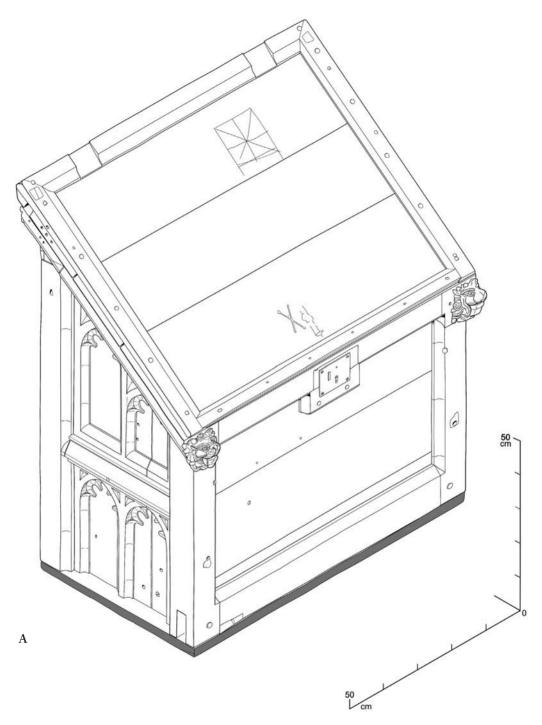
The standing frame of the desk is created by four, substantial corner uprights, rectangular in profile but close to 3 inches square (85 × 75 mm at the back, 86 × 71 mm at the front). At the traceried front these are tenoned into the similarly substantial horizontal top rail and (at the back, the user's side) into the sloping side rails. 19 Each sloping side rail with its lion mask projecting at its lower end must have required great skill and experience to design and cut: at its upper end it is tenoned into the front rail in such a way that it does not interfere with the adjacent tenon belonging to the front upright. The lower end is cut with two adjacent mortises for the joints with the back upright and back top rail. To those familiar with frame and panel construction (generally considered to evolve during the fifteenth century) it is natural to read the desk as containing a series of tracery panels on the sides and front, with a single large panel on the back. However, close inspection shows that each face of tracery on the sides and front is composed of full height boards carved in the solid (two on each side, three on the front) which are linked by horizontal dowels (now visible where the boards have shrunk across their grain).²⁰ Each large section was then fitted into the main framework, held within rebates. On each side at mid-height, what appears to be a moulded rail enclosing the panels above and below is mainly for appearance: an applied moulding pegged to the tracery, and secured within to a corresponding, plain batten.²¹ Even more striking is the back of the desk: this appears to comprise a large 'panel' consisting of two horizontal boards held within a framework. In fact, the top rail and the upper 'board' are actually the same piece of wood, secured to the upright at a elegantly finished joint with a pegged tenon. Below this deep, shaped rail are two horizontal boards which are retained in grooves cut into the uprights and the 3 inch thick bottom rail. The method of construction must have been laborious but provides impressive structural solidity, which would have been of particular value if the desk had to be moved from time to time.

While the use of large scantlings with delicate surface ornament bears comparison with the carpentry of church stalls of the period, the form of the desk, being much more complex, cannot be considered a development of stalling. The architectonic character of the desk invites another analogy: to the conception and techniques of masonry, where a static design in stone is composed using few substantial elements, elaborately cut and ornamented with surface detail. In a similar way, the mason's mitre remained in use for frame and panel joinery for several decades before the joiner's mitre (more suitable to cutting in timber than stone) became commonplace in the midsixteenth century. However, the evolution of joined furniture construction means that there is no need to consider the construction of the desk either as an early phase of frame and panel or as conceived by a mind more familiar with the principles of

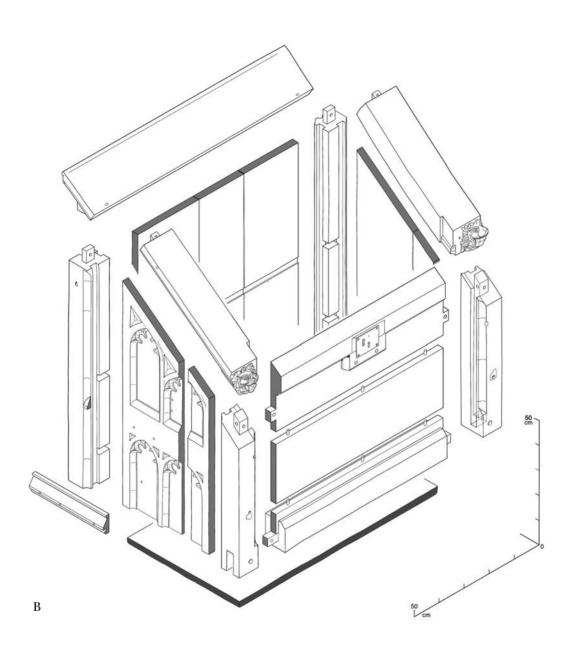
¹⁹ Without X-radiography, the form of tenons used is uncertain. All the main joints are secured by a single peg (around 25 mm diameter).

²⁰ The use here of doweled butt joints as opposed to chamfered or V joints is further evidence that the desk was not originally painted. With painted woodwork a chamfered joint into which the paint penetrates would conceal an imperfect joint. I am grateful to Hugh Harrison for this observation.

²¹ It would be interesting to explore further the use of applied mouldings to create the effect of frames, and to evaluate how far it is a continental feature of carcase furniture.



6A and B Isometric views of the desk drawn by Richard Sheppard (2021). © $\it Victoria$ and $\it Albert$ Museum, London



stonework. From as early as the thirteenth century, English clamped chests were being constructed in similar ways, with large, shaped framing pieces with massive tenons that are broadly comparable to the desk's top rail.²² What is different about the desk is the complexity of its form and the elegant efficiency of its construction. Far from being an adaptation of either stalls or chests, it represents an inventive and strikingly accomplished approach to design by someone versed in the technical woodworking skills required to make it.

ATTRIBUTION

The desk has always been described as English, a hypothesis developed through Charles Tracy's detailed analogies to 'characteristically stilted' trefoil tracery at Lincoln and York cathedrals, and the treatment and placing of the lion masks at Lincoln and Chichester. Conversely, ideas about its dating have varied widely, from Tracy's attribution of 1375–1400 to the early years of the sixteenth century. The results of dendrochronology carried out by Ian Tyers in 2011 can now be applied to complement Tracy's stylistic analysis. Without removing the elm base board which would almost certainly cause damage, or adopting the micro-boring method, dendrochronology could be applied only to the three boards of the hinged lid, and not the main carcase structure which almost certainly included local timber. This means that a regional provenance could not be established using scientific analysis.²³ The lid boards were found to be oak from two eastern Baltic trees which were still growing in 1420; the surface characteristics of the boards indicate that they were worked while still 'green' (unseasoned), implying a dating around 1430–50. On the body of the desk, two types of oak were identified by eye: for the carved panels 'planks of very straight, slow growth eastern Baltic oak, and for most if not all of the structural framework, irregular, faster growth oak from small trees, with distinctive shakes (the visible natural shrinkage) and distortion typical of English timber used before it was fully seasoned'.24

The straight, even growth of Baltic oak facilitated conversion into large boards and thin panels whose excellent working characteristics offset the import costs, leading to a well-established trade with England from the early thirteenth century.²⁵ The use of Baltic 'wainscot' oak in combination with local, fast growth timber has been found in good quality fourteenth- and fifteenth-century furniture produced in England, predominantly in the eastern regions, but has also been identified in moveable French

²² See, for example, Pickvance (2018).

²³ See Bridge and Miles (2011), p. 27.

²⁴ See Appendix.

²⁵ Bowett (2012), p. 166. The early-fifteenth-century York Joiners' Ordinances specify that various items of furniture be made of wainscot (citing Morrell (1949), p. 23); it would be very interesting to study how closely these guidelines were adhered to, and whether a mix of Baltic and native timber was customarily used.

furniture.²⁶ Given some of the unusually refined technical features of the desk the possibility of a continental origin could be explored further, its appearance in London in the 1890s easily explained by the wholesale cross-channel trade in ecclesiastical woodwork that began after the upheavals caused by the French revolution.²⁷ At this point the English origin proposed by Tracy remains in my view the most plausible. The dendrochronological data stretches his stylistic dating by about fifty years but not implausibly so since continuities and changes in English woodwork between *c*. 1375 and *c*. 1450 may depend on local factors as much as the influence of stylistic evolution. For example, the desk might have been commissioned to match woodwork produced two generations earlier, or by someone who favoured a slightly older fashion.

COMPARABLE SURVIVING BOOK FURNITURE

How typical is the V&A desk? Surviving desks are extremely rare; only a tiny fraction of all medieval furniture has survived (even taking account of fixed furniture and the heavy duty chests that remain in church buildings); of many types that undoubtedly existed barely a single example still exists.²⁸ A full survey of medieval furniture associated with books and study is beyond the scope of this article, but three basic types can be briefly mentioned: the library desk for seated readers, the lectern for a standing reader, and the study desk for a seated writer/reader. In practice, however, the last two categories may sometimes be hard to separate.

Of the first type, the multi-user library desk for seated readers in a chained library, of which outstanding examples survive, several histories have been published.²⁹ There are two basic sub-types: for standing readers, and for readers seated on an integral or mobile bench.³⁰ The slope is usually set more steeply than the V&A desk, typically 45–60 degrees. Closely contemporary with the V&A desk, there survive at Lincoln Cathedral three of the eight or ten oak library desks provided in around 1422

²⁶Bowett suggests that the use of Baltic oak across a large area south and east of a line between Newcastle to Plymouth relates closely to its trade through eastern ports and river transport networks. On the use of Baltic oak in English late medieval woodwork see also Bridge and Miles (2011). For the combination of Baltic and native oak see, for example, the frames and doors at the Guildhall, Bury St Edmunds, made *c.* 1485, in Bridge and Tyers (2019), p. 4, and the West gates at Fulham Palace made *c.* 1500, in Bridge and Miles (2012), p. 96. For an example of French furniture using native and imported oak, see the Poissy chest (Musée National du Moyen Age, Hotel de Cluny, Paris, Cl. 21545) which has been dated *c.* 1300 by dendrochronology, with Baltic material for the applied arcading on a structure of local timber. Locatelli and Pousset (2004). See also https://www.musee-moyenage.fr/collection/oeuvre/coffre-de-poissy.html

²⁷ Tracy (2001). Consider also the comment of Hugh Harrison: 'When studying any unusual woodwork, the Continental dimension should never be forgotten.' Harrison (2007), p. 58.

²⁸ Relatively little has been written on the early evolution of the writing desk. See, for example, the article 'Desk' in Macquoid and Edwards (1954) and Dietrich (1986). On medieval books and libraries more generally see Gameson (2006) and Hellinga and Trapp (2014). See also the experimental archaeology project conducted at the University of Toronto: 'The Tools and Technicians of Square Notation', which involved the recreation of a scale model of Jean Miélot's desk, illustrated here as Figure 12.

²⁹ See Clark (1901), Streeter (1931), Vernet (1989). Church desks for chained books are also noted in Cox (1915), chapter XI.

³⁰ In England, where the type is documented from at least 1443, the most typical form seems to be that of a lectern for standing use. Streeter asserts that for a standing reader the height of the bottom edge of the slope was typically 4 feet 2 inches (127cm), for a seated reader 2 feet 7 inches (80 cm).



7 Reconstruction of the Lincoln Cathedral library, c. 1422. (Streeter, 1931).

(Figure 7).³¹ The tall structure presents on each side a solid slope (about 80 cm above the floor, angled to about 45 degrees) on which sat the books, each one attached by a chain to a high-level shelf running the length of the desk. Originally, a simple full-length bench seat extended at a set distance from each side on the desk (as illustrated by Streeter). In terms of design evolution it is as if a regular fifteenth century church pew with poppy head bench ends has grown to twice its normal height and on each side produced a gently angled arm from its midriff, as well as a second bench seat facing 'backwards'. Although study in the fifteenth century, as now, would have entailed the taking of notes, the desks were essentially for the reading not the writing of texts; Lincoln Cathedral possessed no scriptorium. Although the Lincoln desks can be compared with the V&A desk in several ways — their bookish purpose and slope, their dating, their use of oak and the presence of carved decoration — there are several basic differences which limit a comparison: they are double-sided and accommodate

³¹ The fullest account is Streeter (1931). Streeter argues that each desk was aligned with a roof beam and wall post, the wall-end poppy-head inclined to accommodate the roof 'spandrel', and that a bench extended at floor level on both sides. One detached bench survives, of oak with a replacement softwood top. The desk dimensions (measured by the author February 2020): heights overall: 220, 221 cm; depths: 91, 95, 100 cm at aisle end, 30, 34, 34 cm at wall end; lengths: 208, 211, 216 cm.

multiple readers; they are immoveable, having been installed in relation to the architectural design of the library; they offer no internal storage for the books to be read, which were arranged (chained) to the shelves above; and they are open structures, presenting limited planes for decoration.

The second type is the lectern used by a standing reader or cantor addressing a congregation or group.³² They were made in a range of forms, some mobile, and materials: stone and brass as well as carved or painted wood. As well as the distinctive eagle lectern (probably originally more common in wood than brass although the latter has survived in greater numbers), medieval lecterns could be desk-shaped, and include a cupboard unit at the base sufficient to hold very large volumes such as antiphonaries.³³ Lecterns are clearly designed to be used by a standing reader and the single or double book slope is usually set at a steep angle, 60 or more degrees from the horizontal, to aid legibility and voice projection. As a focus of listeners' attention it is not surprising that their design and decoration are sometimes conspicuous.

Two surviving wooden lecterns that are associated with religious institutions are broadly comparable in form and size to the V&A unit. The walnut and marquetry lectern with hinged slope now at the Musée d'art et d'histoire du Judaïsm, Paris (Figures 8A and 8B), is believed to be a bimah from northern Italy, dated to between 1440 and 1480.34 In the Ashkenazi tradition a bimah would be placed in the centre of the room, and the Torah scroll supported on it and read aloud. The decoration, though lacking Hebraic inscriptions, extends to all four sides and corresponds closely to that on the Holy Ark, dated 1472, from the synagogue in Modena, also displayed in the museum and from the same nineteenth-century collection. An oak lectern-desk (*pult*) of the 1490s now in the Bayerisches Nationalmuseum, Munich (Figures 9A and 9B) almost certainly came from the Martinskirche, Landshut, a collegiate chapter composed of priests in southern Germany.35 This compact unit has a gentle slope (about 25–30 degrees) with ledge retainer. It stands on a moulded base and has expertly composed and carved gothic tracery on the sides, in contrast to the plain double panelled front; at the back (where a reader would stand) twin doors, with neatly

³² Cox (1915), chapter IX. For German examples see Kreisel (1968), p. 57: a lectern in Kloster Neustift, near Brixen, South Tyrol (Kreisel, fig. 141), a desk in Kloster Wettingen, near Zurich (fig. 97), and a sewing table in the museum in Brixen (footnote 124). Kreisel emphasises the importance of this furniture since Gothic times and interprets such rare surviving monastic pieces as the ancestors of secular desks in wealthy households.

³³ It would be particularly interesting to know more about the 'desk on wheels with a cupboard in the middle' in Bristol Cathedral, Cox (1915), p. 187, the ornately carved double desk unit *c.* 1470 (restored 1856) at Shipdham, Norfolk, pp. 189–90, and the extraordinary, pre-Reformation 'footed' example at East Hendred, Berkshire, pp. 193–95.

³⁴ Musée d'art et d'histoire du Judaïsm, Paris (on long loan from Musée National du Moyen-Age), D.98.04.124 (Cl.12238): 122 cm high, 88 cm wide, 65.5 cm deep. This piece was heavily restored (the feet, the interior, the painting of certain coats of arms) in the nineteenth century. The upper plate shows traces left by the use of a Torah scroll below and on the sides. It features a coat of arms showing a leopard, as yet unidentified. Personal communication from Claire Decomps, Conservateur en chef du patrimoine responsable de la conservation, en charge des collections historiques et des judaïca, Musée d'art et d'histoire du Judaïsme, Paris.

³⁵ BNM (Inv.-Nr. 30/830); 112 cm high, 80 cm wide, 48 cm deep. The *pult* (the term covers both reading and writing) was first published while in the Figdor collection: Stegmann (1907), p. 159; Falke (1924), S.31; and Falke (1930), fig. LXXVIII, no. 509. For information about, and photos of the lectern I am grateful to Sybe Wartena, Referent für Möbel, Musikinstrumente, Spiele und Stadtmodelle, Bayerisches Nationalmuseum.





8 Bimah, northern Italy, 1440–80. Musée d'art et d'histoire du Judaïsme, Paris (D.98.04.124, on long loan from the Musée National du Moyen-Age, Cl.12238).

A) front view B) rear view © *Musée d'art et d'histoire du Judaïsme, Paris*





9 Lectern-desk (*pult*), almost certainly from the Martinskirche, Landshut, southern Germany, 1490s. Bayerisches Nationalmuseum, Munich, Inv.-Nr. 30/830.

A) front view B) rear view

© Bayerisches Nationalmuseum, Munich. Photographer: Karl-Michael Vetters



10 Book cupboard in Wells Cathedral Library, England, c. 1450. With the kind permission of the Dean and Chapter of Wells Cathedral

designed hinges and lock plate, open on a raised interior compartment with two shelves, the foot cavity underneath allowing a reader to stand comfortably very close to the desk itself. Although it matches the choir stalls produced in the 1490s, it does not seem to have formed part of that ensemble and its original location and intended function are uncertain. Although both the bimah and the *pult* are comparable to the V&A desk in their overall dimensions and prominent decoration, there is a significant difference in terms of use: their shallow angled slopes are positioned too high to have been used comfortably by someone seated. As is suggested by the buildings with which they are associated, their function was as a lectern for a standing reader.

Of the third category, the medieval writing desk intended for a single seated writer-reader, I have found no surviving examples that compare closely with the V&A desk. Therefore, the survival in England — albeit in mutilated form — of a mid-fifteenth-century oak book cupboard with sloping top is of particular relevance. As with the two previous pieces discussed, it also highlights the difficulties of neat categorisation. This cupboard unit in the Wells Cathedral Library, for which it is presumed to have been made, has been dated to around 1450 by comparing its ironwork with that used elsewhere in the building (Figure 10).³⁶ It is of boarded (nailed) construction and its blockish form cannot be described as elegant but its iron fittings indicate that it was not an insignificant commission. The cupboard is clearly too wide (157 cm) to have been intended for a single user. It has two short, hinged doors, one with a lock. The flat top now reaches to table-top height although the low legs may have been somewhat

³⁶ Leighton (2009). Height overall: 83cm (excluding raised ends: 71 cm). The metalwork on the doors has been compared with fittings on the locker doors in the Vicars' Treasury Room (where vestments and plate would have been stored), and a cupboard in the Counting House above the North Transept Nave. Not having been able to study the cupboard, I am most grateful to Veronica Howe, Archivist and Records Manager at Wells Cathedral for information and photographs.



II Jean Miélot writing in his study, from Vie et miracles de Notre Dame, en prose française, arrangés par Jean Miélot, probably Flanders, 1456. Bibliothèque nationale de France, Département des Manuscrits, Ms. Fr. 9198. fol. 19

reduced. At each end of the top rises a shaped upright 40cm high, and it seems a plausible hypothesis that these supported a full-width slope (at about 45 degrees) on which to consult and compare books stored within; behind the slope, a steep curve in the profile suggests that it was left open.

An illustration of around 1456 depicting Jean Miélot in his workshop may help us understand how the Wells Cathedral unit was used (Figure 11). At first sight, it bears formal resemblance to the author's narrower, carved desk unit placed in the middle of the room, with a steeply angled, double-sided slope set on top of a chest-like cupboard curiously open at the front, from which rises a second lectern on metal bracket. But unlike Miélot's carved desk, the top of which appears to overhang a complex moulding on all four sides, the cathedral unit's plain back and greater width suggest that it was placed against a wall. It may have more in common with the wide, built-in book cupboard with five (?) tracery carved doors, above which rises a steep, full-width, ledged slope on which closed and open books are arranged. It stands against the wall to which are attached a range of ink horns, and into which are built two

drawers large enough to contain a substantial volume and various scribal utensils. Miélot's elegantly executed book cupboard might represent ideal quality of design and workmanship while the Wells book cupboard fulfils a similar function, centred on reading, in more workaday style.³⁷

DESKS IN MANUSCRIPT ILLUSTRATIONS

How far might the plentiful evidence provided by fifteenth-century northern manuscripts assist in contextualising and understanding the V&A desk? Professional or vocational writing conventionally took place in two types of location. One was the monastic scriptorium designed for multiple scribes, often constructed within a cloister and supposed to be utilitarian in character, and which is rarely if ever illustrated.³⁸ The second was the private 'study', ecclesiastical or secular, of which illustrations are relatively plentiful and from which some principles may be deduced (Figures 11 to 18).³⁹ Caution is required when interpreting such images because in every case the artist's primary concern was not of course to portray furniture accurately.40 Conventions leading to the reuse of images and artistic licence inevitably play a part, sometimes considerable, in scenes that seem to be deliberately fantastical. Nonetheless, it seems reasonable that many of the interiors and furnishings reflect plausible contemporary usage, albeit recast to suit a primary narrative. The interpretation of images may be a somewhat crude tool, applied highly selectively, but it offers another perspective on an otherwise misty field by which depictions and furniture may usefully inform one another. Several broad deductions may be proposed about desks and writing as the two are depicted.

The defining feature of all medieval writing desks is a slope. At 38 degrees the V&A desk conforms with the majority of desks depicted, which appear to vary between 30 and 50 degrees. Many have 45 degree slopes which may reflect the urge to simplify

- ³⁷ Other, comparable units *c*. 1500 suggest how illustrations can infuse the understanding of surviving but mutilated furniture with new possibilities. The following examples are all available online: a bibliomane in Sebastian Brant's *Das Narrenschiff* (Basel, 1494), published in English 1509 as the *Ship of Fools*; Master of the David Scenes in the Grimani Breviary (Bodleian Library, University of Oxford, MS Douce 112, fol. 25), Flanders, early 16th century; a wolf conducting geese singing, illustration by Jakob Elsner of Nuremberg from the Geese Book (1510 for the parish of St. Lorenz in Nuremberg), Pierpont Morgan Library, New York, M. 905.
- 38 B.H. Streeter discusses the practice of reading and copying in cloisters and the fitting out of the Gloucester Cathedral cloister c. 1400 where individual wooden pew or carrell units were fitted. Streeter (1931), p. 5.
 39 Numerous authors present and discuss the content of illustrated interior views, including Clark (1901), Thompson (1923), Eames (1977), Thornton (1991), Gathercole (2006), and Oledzka (2016). Eames argues succinctly for the judicious use of contemporary illustrations 'the evidence may still be valuable provided that we recognize its limitations' while acknowledging that a depiction does not show a real scene but more likely 'an assembly of appropriate objects... organised specifically for an individual occasion'. Eames (1977), pp. xxi–xxii. In the course of studying the V&A desk I selected from publications and digitized resources online, approximately thirty depictions of desks for the use of a single reader/writer, ranging in date from c. 1400 to c. 1525, and produced mainly in Flemish and French workshops. None purports to show a specifically English interior.
- ⁴⁰ There are also similarities in form between writing desks and the prayer desks at which the Virgin is conventionally shown in Annunciation scenes, but in general these dainty units seem more likely to be a means of anchoring the pictorial composition and evoking Mary's poised piety than to represent actual furniture in use.



12 Jean Miélot, illustration from Débat d'honneur entre trois chevalereux princes, Flanders, 1449–1450. Bibliothèque royale de Belgique, Ms. 09278-09280 saec. XV2, fol. 10r, © KBR

construction or representation, or both, especially while maintaining perspectival proportion.⁴¹ While some gentler slopes (less than 45 degrees) may have been hinged (as with the V&A desk and Paris bimah), this is never shown explicitly. Steeper slopes (above 50 degrees) are also seen (Figures 11 and 17), and it seems possible that they allowed a scribe suffering from short-sightedness (an occupational hazard) to work more comfortably. The ledge or lower edge 'lip' is a feature of lecterns (Figures 16 and 18) that one might imagine to be standard on desks but in fact, like the kneehole, is not always shown on otherwise carefully represented furniture. Perhaps some scribes deemed a ledge unnecessary because the parchment or paper was pinned in place or because it interfered with wrist freedom. Desks always serve a single writer but vary in width, from as narrow as the width of the user's shoulders to twice that dimension. The most common width of slope depicted is 25-40 inches (around 65-100 cm), providing sufficient space for a large folio to be worked on, and which corresponds with the V&A desk, whose width is 34 inches. Another solution to the requirement of having two texts easily legible was to provide a second, adjacent lectern slope (for the exemplar text) mounted on an adjustable metal bracket rising from the desk; little if any of this ingenious metalwork appears to have survived, but those represented are

⁴¹ Christopher De Hamel notes the use of a sloping lectern draped in cloth to protect and stabilise the book being worked on, so that a pen can strike the page at a 45 degree angle without discharging ink too rapidly and messily, and the use of the knife both for ruling lines and for holding the page steady without the touch of natural grease from one's fingers, and for sharpening the pen several times a day. De Hamel (2016), pp. 287–9.



13 Maître du Girart de Roussillon, illustration from *Ci* nous dit, ou Composition de la sainte Ecriture, copy by David Aubert, Brussels, 1462.
Bibliothèque royale de Belgique, Ms. 9017, fol. 40, © KBR

not implausible given that any metal fitting was made to order.

Comfort and convenience matter. Desks are usually shown in comfortable, well-lit rooms that are provided with a fireplace or apparently not so large as to be difficult to heat, which is unsurprising given that scholars needed to work in a concentrated manner while seated for long periods (Figures 12, 13 and 18). Desks are often placed close to windows which may be adjusted to control the amount of light entering the room (Figures 12, 13, 16 and 18). Decorated floors, textile hangings and cushions underline an expectation of comfort, indeed the room is sometimes a bedchamber, or close to one. A desk needed to be stable, with a solidly constructed foot or plinth. Whether the depicted user is a saint or the author of the text, these desks represent carefully designed, well-made furniture, with mouldings and sometimes panels to help define form. It could also be argued that the dignity and authority of author and text required the portrayal of a decent quality desk.⁴² Poorly made desks must of course have existed, but the plausibility of the desks portrayed supports the sense that this level of quality might reasonably be hoped for, if not always attained. Most desks cannot be described as portable, but their relatively modest size would allow them to be moveable; very few if any convincing looking desks are depicted as built-in. Allowing the location of a desk to be adjusted within a room would optimise one's working position in relation to a window or hearth, according to the season.

⁴² Notable exceptions to this rule are found in illustrations of St Jerome writing at a pointedly rustic item, such as the panel by Lucas Cranach the Elder, c. 1515, in the JAPS Collection, Mexico City.



14 Master of the White Inscriptions, detail from a miniature of Vincent of Beauvais, a Dominican monk, sitting at a desk and writing his book, from Le Miroir Historial, Bruges, 1479–80. The British Library, Royal 14 E I.

Some illustrations from the mid-fifteenth century show a different, arguably more versatile, type of desk arrangement, without the provision of storage, obviating the need for a large piece of furniture (Figures 12 and 13). This involved a regular table on which was set a separate slope about 20 to 24 inches wide, and thus solid and heavy enough to remain stable. The solution appears to anticipate the preference after 1500 for small and easily portable, shallow-slope, desk-boxes.⁴³ The design of such desk-boxes may also relate to the emergence in Spain (but quickly spreading across Europe) of the *escritorio*, a portable, fall-front cabinet for papers and small items.

Regardless of its width, the height at which the slope is presented is governed by the need to accommodate a seated scribe, the lower edge corresponding to the sitter's waist. Chairs of various standard types are seen, as are benches and chests which are likely to have been used to contain books. Occasionally, the seat is integrated within a timber architectural ensemble comprising platform, desk and seat, and perhaps additional storage or shelving (Figure 16). An unobtrusive feature that seems entirely plausible in the context of actual usage is a foot-rest to help the writer maintain a comfortable position (and keep feet warmer) for long periods. In contrast, the kneehole that would nowadays be considered ergonomically essential, and a defining feature of multi-user library desks, but which is absent from the V&A unit, is not obligatory in these depictions (Figures 13 and 17). Some scribes are shown sitting sideways to the

⁴³ See, for example, the sumptuously decorated writing box c. 1525 from the court of Henry VIII (V&A: W.29–1932). For another illustration c. 1450 of this type of portable slope support, see the image of Jean Miélot in his cabinet, within Vincent de Beauvais, *Miroir de la salvation humaine* (Biblioteque Nationale de France, ms. Fr. 6275. Fol. 1).



15 In the style of Jean Pichore, detail showing St. Luke, Paris, 1531–1543, from Explication des actes des apôtres. The British Library, Harley MS 4393, fol. 6 v.



16 The Master of the Prayer Books of around 1500, detail of a miniature of the author writing his book, Bruges 1490–1500, from Guillaume de Lorris and Jean de Meun, Roman de la Rose.

The British Library, Harley 4425, f.133r.

desk, others perch forward, apparently in a relaxed and controlled position; this may be less a reflection of reality than pictorial convention by which the scribe is presented to the reader but the evidence from illustrations is that not every desk incorporated a kneehole.

Core to the functioning of the study were books, whose heavy material presence and metal fittings made them impossible to arrange in modern style, closely arranged upright. Volumes of various sizes are often depicted adjacent to a desk, resting on sloping shelves or a separate lectern, or flat inside cupboards or on a table.⁴⁴ The desk itself may offer internal storage for books in the form of an open cupboard in front of the knees or a shelf immediately under the slope, of the type commonly seen in front of choir stalls. A side opening offers greater convenience then a 'kneehole' cupboard or shelf, or a hinged lid-slope, but rarely seems practical enough for more than a small volume or two, or refreshment to the hungry or thirsty (Figures 13 and 17).

One other aspect of the portrayal of desks that suggests naturalism and familiarity on the part of the artist (literally so with those images showing the author at work in his study) is the presence of scribal utensils and accessories such as pens, pencases and

⁴⁴ For the fictive Italian book cupboards vividly depicted in the intarsia decoration of the north sacristy of Santa Maria del Fiore (1434–65), see Haines (1983).



17 Master of the Mandeville Travels, Miniature of Canon Otto von Diemeringen at work at his desk translating the Voyage d'outre mer into German, Bohemia, 1400–25, from *The Travels of Sir* John Mandeville. British Library Additional 24189 Folio 3r.

inkwells for different inks, scissors, lenses and weighted ribbons to hold down the parchment – sometimes laid out on a handy built-in shelf or affixed to the desk with a leather (?) band, or in the case of inkwells, inset into the surface of the slope. Commonly seen to the side of the slope is an aperture or cubby hole, too small for a book but apparently convenient as a repository for slips of parchment (Figures 14 and 18).

In summary, what can this highly selective survey of scribes and scholars at work suggest about single user desks in northern Europe in the fifteenth century? Firstly, that the artists depict solidly made wooden structures, often with ingenious and plausible details. Secondly, that the desks reflect the practical needs of scholars, providing book storage and a convenient writing surface; in most cases they are used in conjunction with separate shelving of some kind. Thirdly, while mouldings and carved ornament in contemporary patterns are not unusual, polychromy decoration is exceptional, which may be surprising given the widespread evidence of painted and gilded decoration on medieval woodwork.⁴⁵ While none of the depictions fully matches the V&A desk, almost all its basic characteristics are seen sufficiently frequently as to

⁴⁵ See, for example, Charles Tracy's assertion, in the context of High-Medieval ecclesiastical woodwork in Britain, that 'oak was selected not for any intrinsic status, but for its utilitarian attributes.... [and] almost invariably disguised to imitate more costly materials, such as gold, silver and precious textiles, or as a ground for the application of coloured images'. Tracy (2015), p. 86.



18 Attributed to the Master of the David Scenes in the Grimani Breviary, St Mark, Flanders, early 16th century. Bodleian Library, University of Oxford, MS Douce 112, fol. 026v (detail), © Bodleian Libraries, University of Oxford, Creative Commons licence CC-BY-NC 4.0

suggest that it is no freak. The proviso is needed because none of the illustrations clearly shows a hinged lid, while cupboard doors are relatively frequent. However, in a culture of chests, the hinged lid is an obvious approach to desks with storage, that would become established and last the test of time, despite shortcomings. Furthermore, with fifteenth-century artists representing the activities of reading and writing, it is surely perverse to expect them to show, not the definitive actions of reading or writing, but the peripheral moment when a user interrupts work to lift the lid and stick an arm or head inside.

CONCLUSION

How far do surviving examples and the evidence of depicted desks inform an understanding of the V&A desk? It is clear that the desk is missing a base that would have provided a satisfactory termination to the ornament and established it as a piece with architectural 'standing'. Reimagining the embattlement of the lower storey of

tracery (2½ inches or around 6.5 cm), and a moulded footing 2–3 inches (5–7.5 cm), the height overall would be raised by about 5–6 inches from 38½ to about 43–45 inches (109–115 cm). The slope would of course also be higher at 28–29 inches (71–74 cm), measured from the floor rather than the current 23½" (60 cm), starting just above conventional table top height.⁴⁶ One argument against it having been higher is that a substantially taller footing would require a user to stand and reach uncomfortably far within to find an item low down.⁴⁷ Even allowing for a base of about 5 inches, the desk would still be light enough and its construction easily stout enough, to allow it to be slid short distances across the floor as circumstances required.⁴⁸ Its size and angle of slope, and the evidence of depicted desks indicate that the V&A desk was not used standing, as a lectern from which to address auditors in a church, chapter house or refectory, but seated, primarily for writing, with the choice of seat probably a matter of personal taste and circumstances.

The V&A desk is dual purpose in that it combines a surface suitable for writing or reading, with capacious, internal storage. The most likely contents must include books, which are generally recorded as being stored in chests or cupboards, but also materials for writing with and on; the narrow shelf inside the lid would have been convenient for writing utensils.⁴⁹ It must be admitted that the desk does not combine the two functions of writing and storage with ease, because anything on the slope must be removed before raising the lid, or risk it sliding off. A professional scribe would generally be copying an exemplar text, and while the slope is broad, an additional work surface nearby such as a lectern or table (or both) would no doubt have been useful. Further evidence of the desk's practical design are the twin cut-outs along the top edge which could have located two weighted bands or cords to help keep sheets of parchment or paper flat while writing, or book pages from moving during reading, as appears to be shown in some of the contemporary illustrations (Figures 11 and 14).

One of the many questions prompted by the desk concerns the medieval locations of furniture for writing. The absence of desks from liturgical spaces, and the meagre picture of monastic *scriptoria* as utilitarian spaces, support a view of the desk as professional furniture for a well-appointed study of the type frequently illustrated in the period. The close relationship between the clergy and scribal culture in the fifteenth century means that an ecclesiastical context is highly likely.⁵⁰ While the desk as a type

⁴⁶ An additional, insulating sub-platform extending underneath a seated scribe would not change this basic dimension.

⁴⁷ In London c.1450 average male adult height was slightly under 5' 8" (172 cm), and average female height was 5' 3" (160 cm). Museum of London (1998), p. 108. The evidence of some remaining insect damage at the bottom of the desk plausibly explains the drastic surgery that it has undergone; preserving the desk in this way suggests the removal of no more material than was necessary and visually acceptable.

⁴⁸ The weight of the desk in its present form is 52kg.

⁴⁹ Penelope Eames cites various documentary references to armoires being used to store books. Eames (1977), pp. 4–5. The Exeter synod of 1287 required churches to provide chests for books and vestments (*'cistam ad libros et vestimenta'*). Binski (2004), p. 176.

⁵⁰ See also the assertion of Penelope Eames that 'no distinction should be drawn between ecclesiastical and secular furniture'. Eames (1977), p. xxiii.

of furniture was not a conventional indicator of social status in the way that a bed of estate or tiered buffet was evidently understood to be, the V&A desk with its careful design and carved decoration presupposes significant investment; it would also have represented its owner's lifelong learning and commitment to study. In a society defined by religious belief and practice, use of the desk must also have been imbued with Christian sensibility, that time spent at it and the texts it facilitated should be in the service of God, even if matters of business, law or poetry were conducted on it. The pair of lion masks on either side of, and facing the desk's user may be read as reminders of vigilance against idle or evil thoughts, a warning against the devil on the prowl, or for their associations with the evangelist St Mark or St Jerome with whose writings s/he would certainly be familiar. With its well thought out design, use of imported oak and prominent decoration, the desk was clearly intended to be admirable as well as useful and durable, and must have been specially commissioned by someone of means and status.

The question was posed initially of how far the desk can be regarded as a unique survivor of writing culture from the founding years of English literature, from the age (or shortly thereafter) of its 'father', Geoffrey Chaucer (d. 1400). It is indubitably a rare survivor but in one sense it is also a 'dinosaur'. Shortly after it was made, the explosion in the number of printed books available would have begun to render it archaic. The change did not take place overnight since some types of manuscript books enjoyed a golden age well into the early sixteenth century and professional scribes continued to produce manuscript documents for much longer, but after the arrival of the printing press the meanings of a writing desk were changed.⁵¹ Furthermore (and particularly if an English origin is maintained), a century after the desk's creation, the Protestant reformation in England is likely to have entailed further fundamental changes in its ownership, context and function. By whatever fortuitous and mysterious circumstances it survived, the desk provides rare glimpses into the making, use and value of furniture in late medieval Europe.

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⁵¹ Between c.1450 and c.1500 around nine million printed books (30,000 titles) were issued. De Hamel (2016), p. 506.

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APPENDIX

Tree-ring analysis of a piece of furniture: A desk with book cupboard beneath Dendrochronological Consultancy Report 446 (DCL reference OS631)

Ian Tyers, July 2011

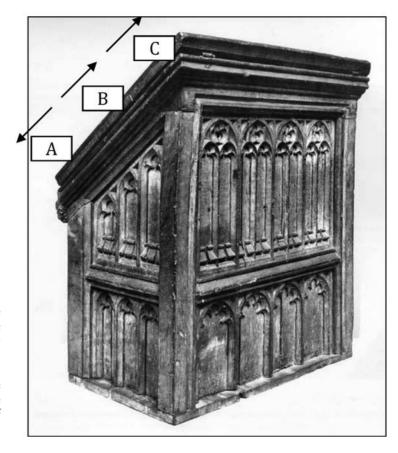
SUMMARY

A desk with book cupboard beneath in the collection of the V&A (Museum number 143–1898) contained oak boards in the hinged lid and in the carcase. Access to the end grain of the carcase boards was impracticable but analysis of the tree-ring sequences from the three boards of the lid provided an earliest date for the object of *c*. 1420. The three analysed boards were derived from two different trees, sourced from the eastern Baltic.

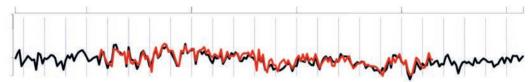
SAMPLING

This desk was examined in London, in June 2011. It has been cut down and mounted on an elm board. The carved panelling and the lid were constructed from slow grown radial oak (*Quercus*) boards whilst the framing timbers of the carcase were faster grown, small roundwood oak trees. The end grain on parts of the three lid boards could be accessed without requiring any dismantling of the desk. None of the other boards or framing timbers could be accessed for analysis. The three lid timbers were arbitrarily labelled A to C for the analysis (Figure 19).

Annual ring width sequences from the right hand side of the three lid boards were measured on a computer based measuring system where the individual ring widths were measured to an accuracy of o.o.mm. These represent the complete sequence from boards A and B, and a partial sequence from board C (access was restricted to this both by some fragmentation and also by the hinge). The most recent outermost rings are the most important for constraining the date of an object. There was no surviving sapwood identifiable on these board edges, this meant that it was possible to calculate a *terminus post quem* date for this object.



19 The desk from the front. The labels are those arbitrarily assigned to the treering sequences from these boards. The arrows indicate the direction of growth of the lid boards.



20 A diagram showing the visual similarities between the sequences from board A (black) and board C (red). These two boards are undoubtedly derived from a single tree (*t* value 14.16).

RESULTS

The three measured sequences were compared with each other, and were found to form two groups. Boards A & C cross-matched very strongly (*t* value 14.16), and these were undoubtedly derived from a single tree (Figure 20), whilst board B was derived from a different tree. The boards A & C series were combined into a composite sequence, and this and the board B series were then compared with a set of European master tree-ring chronologies. The comparison involved the examination of each

outermost rings were not analysed from board C due to its fragmentation.	
outermost rings were not analysed from Board C due to its fragmentation.	DCI OI

Board	Description	Rings	Date span of measured rings	Interpreted date
A	lid farthest from hinge	243	1116–1358	after 1366
В	lid middle board	132	1281-1412	after 1420
С	lid nearest to hinge	160	1156–1315	after 1323

Table 2. Showing illustrative t values (Baillie & Pilcher 1973) for the dated position of the composite series from boards A & C in the lid against independent Eastern Baltic reference series.

	Boards A+C 1116–1358
Yorkshire, Hull HMC94 boards from coffins (Tyers 1998)	9.95
Yorkshire, Hull Chapel Lane CLS2000 11 boat planks (Tyers 2000)	8.88
Poland, Copper Wreck (Bonde/Wazny pers. comm.)	8.84
Belgium, Ghent Altarpiece P21-B (Fraiture pers. comm.)	8.30
Denmark, Copenhagen Dokøen; wreck 2 (Eriksen 2001)	7.77

Table 3. Showing illustrative t values (Baillie & Pilcher 1973) for the dated position of the series from board B in the lid against independent Eastern Baltic reference series.

	Board B 1281–1412
London, Southwark ABB87 boat (Tyers 1996)	9.02
Philip Duke of Burgundy Soc. Antiquaries (Tyers 2005)	7.52
London, Southwark ABB87 door (Tyers 1994)	7.17
Poland, Copper Wreck (Bonde/Wazny pers. comm.)	7.02
Belgium, Ghent Altarpiece P464/01 (Fraiture pers. comm.)	6.71

possible position of overlap between these two sequences and each of the reference sequences, this search was undertaken by computer. These comparisons identified statistically significant correlations between the two series and more than one of the master reference sequences at the same absolute dating positions. These positions were then checked visually using standard tree-ring plots to confirm that these matches were reliable. The checking process then proceeded to separately test these two series at their dating positions against a large number of independent sequences of similar date

A desk with book c	upboard beneath	Span of ring sequence	es
V&A 143-1898	Lid board A Lid boar	d C I L id board	→ after 1366 → after 1323 B → after 14
Calendar Years	1200	1300	1400

21 A bar diagram showing the position of the dated ring sequences obtained from the three analysed boards of the lid. The measured sequences contain oak heartwood (white bars) only. The interpretations based on the minimum likely number of missing sapwood rings are also shown.

and origin. This process was used to confirm that the identified dating positions exhibited statistically significant correlations against sufficient independent tree-ring data that these results can be regarded as reliably replicated (Tables 2 and 3). These checks proved satisfactory and confirmed the dates of the three analysed boards from the desk that are given in Table 1.

INTERPRETATION

A: THE ORIGIN OF THE BOARDS

The matches between the board series from the desk and the reference data are with a number of chronologies derived from the eastern Baltic area of Europe. The group of Baltic material that matched best are from current evidence most probably from modern Poland or the countries immediately to the east and north (Wazny 2002; Haneca *et al* 2005). The series also matched data from a number of other objects, principally other fifteenth century items such as coffins, altarpieces and ships planking from excavations across England and Europe, previously identified by dendrochronology as being derived from the same area (Tables 2 and 3). This area is thus the most likely source region for the three lid boards. This is not an unexpected outcome given both that there was an extensive trade in oak planking from the eastern Baltic region throughout the period from the fourteenth to mid-seventeenth centuries (Bonde *et al* 1995) and that these boards are straight grained, and slow growing.

B: THE DATE OF THE FELLING OF THE BOARDS

The interpretation of the dates of the sequences from the three analysed boards is shown in Figure 21 in the form of a bar diagram. None of the measured sequences contain sapwood, or the onset of sapwood. The minimum expected number of sapwood rings that must be missing, eight for eastern Baltic boards (see Hillam *et al* 1987), can be added to the dates of the most recent heartwood rings to suggest the earliest likely felling date for each analysed board. The most recent measured heartwood rings present on the boards date to 1412 from Board B. This board, assuming typical minimum amounts of sapwood were originally present, cannot have been felled prior to *c*. 1420. The board A and board C series appear to represent the inner part of a long lived slow growing tree, the unmeasured section of board C would

probably extend the present sequence nearly to the end of the fourteenth century, but does not affect the overall interpretation which is based on the complete sequence obtained from board B.

The result of this analysis therefore indicates that the desk can be no earlier than 1420. All three boards are relatively narrow for eastern Baltic timber, A & C are 222 mm and 225 mm wide at the right hand side, whilst board B is 170 mm wide, all are likely to have been trimmed from slightly wider boards (250-300 mm wide is more typical of eastern Baltic boards of this period). It is not possible, given the absence of sapwood, to be certain that this trimming has not removed more recent rings. As outlined in the introduction the use of green or seasoned timber in the construction of works of art is a complex and uncertain issue. With specific respect to this desk there are several pertinent observations that can be made concerning both the toolmarks on the boards, and also of some definite warping in some of the carvings of the boards. The underside of the lid, and the inside faces of the carcase all have very smooth slightly dished toolmarks typical of those made by a 'shave'. These exhibit no obvious tearing of the wood fibres, nor are there obvious judder marks, both of which would be more typical if the timbers were well seasoned when these surfaces were prepared. The framing elements and the carved boards of the carcase show evidence for splitting and warping of the timbers after they have been cut; originally contiguous carvings and toolmarks are now separated by splits. These distortions are likely to indicate these timbers were prepared before they were fully seasoned. Together these observations suggest the desk is likely to have been made from green timber, and thus it could date from as early as the second quarter of the fifteenth century.

CONCLUSION

The absence of sapwood on the analysed boards from this desk allows a *terminus post* quem date to be calculated for it. The three boards from the lid of the desk were derived from two different trees, one at least of which was still growing in 1412. Applying standard estimates for missing sapwood indicates that these trees were likely to have been felled after c. 1420. These trees grew somewhere in the eastern Baltic area of Europe, a more precise location cannot be identified. By making a number of observations of the characteristics of the timber, and their toolmarks it is possible to suggest that this desk is most likely to have been constructed using unseasoned oak and is therefore likely to date from shortly after the felling of the oaks. Eastern Baltic oak boards were in widespread use throughout western Europe, its presence in this desk therefore precludes the tree-ring analysis from making any suggestions as to its place of origin. The analysis of the tree-ring sequences from the desk provides strong evidence for the date, and source, of three boards in its lid. A dendrochronological study is of maximum interpretative value when integrated with other technical and art-historical studies.

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