

Production of parchment legal deeds in England, 1690–1830*

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Abstract

Biomolecular analysis of historical parchment legal documents is providing new insight into their production and use. Successful interpretation of this data is dependent on understanding if the location and date written on the document accurately reflect where the animal from which the parchment was produced was raised and when it died. Our analysis reveals that the location the deed concerns, or that of the stationer through whom it was sold, typically bears no relation to the animal's origin, but that the date the agreement was signed was probably only a few months after the animal's death.

As the use of paper grew in England from the fifteenth century,¹ the once ubiquitous employment of parchment² was increasingly restricted to applications where its durability was indispensable, principally legal documents. For legal instruments, animal skin provides a medium even more durable than the agreements they enshrine, with millions surviving to this day in archives, libraries and private collections. Despite their abundance, remarkably little is known about the industries that produced them. Understanding the early modern parchment industry is of critical importance to the emerging field of 'biocodicology'. Biomolecular analysis of parchment legal deeds (through proteomics, genetics and stable isotope analysis) is revealing hitherto hidden information on animal husbandry, manufacturing techniques and object use.³ However, successful interpretation of the results generated is dependent on confirming the accuracy of the location and date inscribed on the document in order to examine regional and chronological trends. To test this, we provide the first review of the route of parchment from field to legal office. After outlining the parchment production process, we discuss the evidence provided by trade directories and legislation's impact on producers, distributors and purchasers of parchment, before turning our attention to the evidence offered in stationers' records.

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¹ O. Da Rold, *Paper in Medieval England: From Pulp to Fictions* (Cambridge, 2020).

² A note on nomenclature. The term *parchment* is typically applied to sheep- or goatskin, with *vellum* reserved for calfskin. For ease, here we use *parchment* to refer to all skin prepared for writing.

³ S. P. Doherty and others, 'Scratching the surface: the use of sheepskin parchment to deter textual erasure in early modern legal deeds', *Heritage Science*, ix (2021), doi: 10.1186/s40494-021-00503-6; M. D. Teasdale and others, 'Paging through history: parchment as a reservoir of ancient DNA for next generation sequencing', *Philosophical Transactions of the Royal Society B: Biological Sciences*, cclxx (2015), doi: 10.1098/rstb.2013.0379; and Sarah Fiddyment and others, 'So you want to do biocodicology? A field guide to the biological analysis of parchment', *Heritage Science*, vii (2019), doi: 10.1186/s40494-019-0278-6.

The transformation of skin into parchment can be divided into two separate processes: *manufacture*, from removal of the skin from the animal to its removal from the parchment maker's frame; and *preparation*, during which the parchment is ruled and made ready to be written upon.⁴ In early modern England the former was undertaken primarily by the butcher⁵ and parchment maker, and the latter by the stationer and legal clerk.

Skinning was carried out shortly after the animal's death, prior to disarticulation of the carcass. Flaying with accuracy was of great importance, as small cuts would become large holes during stretching. Various Acts of Parliament sought to address this through severe fines for damage that rendered skins unusable for either leather or parchment,⁶ though enquiries into their effectiveness indicated that parchment makers were far more concerned with flaws arising from parasites than from skinning.⁷ Once removed, the skin was susceptible to putrefaction and bacterial attack, necessitating swift processing. In as little as twenty-four hours, there could be significant damage to the structural proteins – such as collagen and elastin – resulting in a loss of tensile strength, discolouration and prominent vein marking.⁸ If processing could not begin immediately, the most common method of preservation had historically been curing with salt, which dehydrated the skin, reducing the viability of bacterial activity.⁹ Skins could be stored in this condition for up to six months, and it could easily be reversed through rehydration. However, the often high and volatile price of salt made curing prohibitively expensive: a typical sheepskin required around 1kg of salt,¹⁰ which in the seventeenth century cost approximately 15 per cent of a finished sheet of parchment, rising to 35 per cent by the eighteenth century.¹¹ Consequently, curing is not mentioned in contemporary descriptions of the manufacturing process.¹² The need to process skins before any deterioration probably encouraged the sourcing of local materials. This was the case even in the twentieth century, with parchment makers Messrs. G. & A. Stallard of Havant obtaining skins from within a fifty-mile radius of their site despite the aid of motorized vehicles and chilled storage.¹³

⁴ M. Gullick, 'From parchmenter to scribe: some observations on the manufacture and preparation of medieval parchment based upon a review of the literary evidence', in *Pergament. Geschichte, Struktur, Restaurierung, Herstellung*, ed. P. Rück (Sigmaringen, 1991), pp. 145–57.

⁵ That butchers skinned animals destined for parchment is noted in E. Chambers, *Cyclopaedia*, ii (5th edn., London, 1748); W. Smellie, *Encyclopaedia Britannica* (Edinburgh, 1771), p. 456; and J. Houghton, 'Friday 7th 1694', reproduced in R. Bradley, *Husbandry and Trade Improv'd* (London, 1728), pp. 323–30.

⁶ These include An Act Concerning Tanners, Curriers, Shoe Makers, and Other Artificers Occupying the Cutting of Leather 1604 (1 Jac. 1 c.22), An Act for Laying Certain Duties Upon Hides 1711 (9 Ann. c.11) and the Use of Horse Hides etc. Act 1800 (39 & 40 Geo. 3 c.66).

⁷ *Accounts and Papers (Parl. Papers 1837 (Sess. 1837), lii)*, p. 106.

⁸ A. D. Covington and W. R. Wise, *Tanning Chemistry: the Science of Leather* (2nd edn., London, 2019), pp. 85–9.

⁹ R. Thompson, 'The manufacture of leather', in *Conservation of Leather and Related Materials*, ed. M. Kite and R. Thompson (Oxford, 2008), pp. 66–81, at p. 68.

¹⁰ Covington and Wise, *Tanning Chemistry*, p. 89; and J. Churchill, *The Complete Book of Tanning Skins and Furs* (Mechanicsburg, Pa., 1983), p. 20.

¹¹ Based on average salt and parchment prices given in G. Clark and P. Lindert, *Global Price and Income Database: England Prices and Wages Since 13th Century* <<https://gpih.ucdavis.edu/Datafilelist.htm>> [accessed 5 June 2022].

¹² Our description of the manufacturing process draws upon seventeenth- to nineteenth-century practices detailed in Houghton, 'Friday 7th 1694'; J. Lalande, *Art de faire le parchemin* (Paris, 1762), pp. 1–52; H. Saxl, 'An investigation of the qualities, the methods of manufacture and the preservation of historic parchment and vellum with a view to identifying the animal species used' (unpublished University of Leeds Ph.D. thesis, 1954); R. Reed, *The Nature and Making of Parchment* (Leeds, 1975); M. L. Ryder, 'Parchment – its history, manufacture and composition', *Journal of the Society of Archivists*, ii (1964), 391–99; and Thompson, 'Manufacture of leather'.

¹³ R. Cousins, *Parchment and Glove Making in Havant* (Havant, lxvii, 2017), p. 21.

One of the central processes of parchment making was submersion of the skin in a lime solution, derived from roasting limestone (calcium carbonate) to form quicklime (calcium oxide), which reacted with water (slaking) to produce calcium hydroxide. Liming served a range of important functions, in particular: ceasing putrefaction; degrading the keratinous wool and epidermis, facilitating their removal; and leaching out fats via saponification.¹⁴ In a relatively weak solution dehairing could be achieved within seven days, but could be accelerated by an increase in temperature, alkalinity or mechanical action. A key manufacturing development of the nineteenth century was the addition of depilatory agents (often termed ‘sharpeners’) such as sodium cyanide and arsenic sulphides to accelerate keratin degradation to under two days.¹⁵ The limed skin was subsequently placed over a wooden beam and the fat, flesh and hair manually removed with a sharp double-handled knife, in a step termed ‘fleshing’.¹⁶ The skin was then washed to lower the pH and dried under tension on a wooden frame for one to two weeks. Once it was dry, a sharp lunar-shaped knife (lunellum) was used to shave the skin, gradually reducing its thickness. Shaving could leave scratches on the surface due to small nicks in the knife, therefore it was frequently followed by pumicing to smooth out the surface.

Sheepskin parchment could retain a significant amount of fat, which produced discolouration upon oxidation and inhibits the absorption of ink.¹⁷ To draw out additional fat, parchment recipes recommended the application of various absorbent (predominantly alkaline) materials, including lime powder, chalk, gesso, wood ash and powdered bone.¹⁸ These would be worked into the skin using a pumice stone, left for a few days and then brushed off. By the mid seventeenth century – presumably in response to increasingly corpulent breeds of sheep – parchment makers degreased further through the application of boiling water to both the flesh and the hair side, followed by scraping with the lunellum.¹⁹ This technique, known as sizing or scalding, would have not only helped draw out grease but also partially gelatinized the skin, resulting in a uniform surface more receptive to ink.²⁰

Once removed from the frame, the skin would be cut to size ready for sale. Parchment makers were required to provide two days’ notice prior to removing goods from their

¹⁴ For a review of the chemical modifications that occurred during liming, see S. Doherty and others, ‘Measuring the impact of parchment production on skin collagen stable isotope ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) values’, *STAR: Science & Technology of Archaeological Research*, vii (2021), 1–12.

¹⁵ These processes irreversibly degraded the wool, limiting the fibre’s future use. Before the eighteenth century, when wool was of greater value than meat, fat or skin, wool-saving methods of dehairing were often used to remove the fibre for resale to the textile industry. A common technique was the application of strong ‘lime paint’ to the skin’s flesh side to destroy only the root. The additional benefit of this technique was that once the skin was clear of wool, its condition could be more accurately assessed and the appropriate end product selected. At Messrs. Russell Leather & Parchment Works, Hitchin, a ‘puller’ removed and graded the wool, after which a ‘sorter’ inspected the skins and selected those with the fewest imperfections for parchment, with the remainder used for different types of leather goods (G. Clark, ‘The price history of English agriculture, 1209–1914’, *Research in Economic History*, xxii (2004), 41–124; Houghton, ‘Friday 7th 1694’, pp. 325–7; Lalande, *Art de faire le parchemin*, pp. 2–3; and Thompson, ‘Manufacture of leather’, pp. 71–2).

¹⁶ Fleshing was usually conducted after unhairing, as the skin needed to lie flat to reduce the risk of cuts; however, as large subcutaneous fat deposits could impede the penetration of the lime, excess fat was often removed before liming, in a process known as green-fleshing (Covington and Wise, *Tanning Chemistry*, p. 65).

¹⁷ Saxl, ‘Investigation’, p. 20–2.

¹⁸ Saxl, ‘Investigation’, pp. 22–6; and Reed, *Nature and Making of Parchment*, pp. 50–3.

¹⁹ Royal Society, CLP/31/18, ‘The art of making parchment, vellum, glue etc’ by John Beale.

²⁰ Ryder, ‘Parchment’, p. 395.

site.²¹ This allowed time for inspection by ‘searchers and sealers’, who would weigh and value the product, ascertain the duties payable for the products, and catalogue the quantity of raw skins and finished parchment on-site.²² Anyone who attempted to move items prior to inspection was liable to be fined £50.²³ A duty of 6d was levied on every dozen parchment skins produced, to be collected on-site or in the closest market town.²⁴ These regulations were eventually lifted in 1830.²⁵

Examination of national and local trade directories could lead one to believe the parchment-making industry had all but collapsed by the nineteenth century; only a handful of parchment makers are listed for this period, with many town and city directories failing to list any operations outside London.²⁶ However, parchment remained in great demand, with the number of sheets produced each year doubling to over 400,000 during the course of the eighteenth century.²⁷ Parchment conferred a degree of legitimacy and durability that ensured a market for degree certificates, book covers, private legal instruments and Acts of Parliament into the twentieth century.²⁸ At present our only information on the regional distribution of nineteenth-century parchment makers is a list of the number operating in each county compiled in 1841 by the Board of Stamps,²⁹ the body charged with the administration of Stamp Duty. A total of 357 parchment makers are listed in England, located almost entirely south of the River Trent (Figure 1), with just two in Scotland and none in Wales. This can be explained largely by the introduction of Stamp Duty in 1694, which required parchment to be sent to Lincoln’s Inn, London, for the application of revenue stamps (discussed below), ensuring that manufacturers located closer to the capital were at a significant advantage in obtaining sought-after government contracts to supply the Stamp Office. Concentrations also appear in Gloucestershire, Hampshire, Northamptonshire and Suffolk – counties in proximity to areas of limestone geology such as the Cotswolds, Salisbury Plain, the Chiltern Hills and the South Downs. It has previously been suggested that this geology was a factor in the successful development of parchment-making industries due to ‘strong waters’ with high chalk contents producing a whiter skin on the animals used.³⁰ This association may also have been the result of downlands traditionally operating under a system of ‘sheep-and-corn husbandry’, in which grain production was sustained by large sheep flocks that enriched the thin chalkland with their dung,³¹ generating a ready supply of local skins.

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²¹ C. Leadbetter, *The Royal Gauger; or, Gauging Made Perfectly Easy, as It Is Actually Practised by the Officers of His Majesty’s Revenue of Excise* (London, 1755), p. 339.

²² An Act for Licensing and Regulating Hackney Coaches and Chairs, and for Charging Certain New Duties on Stamp Vellum, Parchment and Paper 1711 (9 Ann. c.23); *Commissioners of Excise, Great Britain, Instructions for Officers Who Survey Tanners, Tawers, &c.* (London, 1715); and Stamp Office, *Instructions to Be Observed by Each Distributor of Stamped Parchment and Paper* (London, 1759).

²³ 9 Ann. c.11.

²⁴ 9 Ann. c.23.

²⁵ Leather Duties Repeal Act 1830 (11 Geo. 4 c.16).

²⁶ Directories listing few or no parchment makers include T. Mortimer, *The Universal Director* (London, 1763); and J. Pigot, *The Commercial Directory for 1818–19–20* (Manchester, 1818).

²⁷ The National Archives of the U.K., CUST 145/20, ‘Rates of excise duties: quantities and amounts charged’.

²⁸ D. Hunter, *Papermaking: the History and Technique of an Ancient Craft* (New York, 1943), pp. 13–17; and R. Kelly, *Vellum: Printing Record Copies of Public Acts* (Parl. Briefing Paper No. 07451, London, 2018).

²⁹ Her Majesty’s Stationery Office, *Reports From Commissioners*, xiii; *Parliamentary Papers* (London, 1844), p. 13.

³⁰ J. Aubrey and J. Britton, *The Natural History of Wiltshire Written Between 1656 and 1691* (London, 1847), p. 95.

³¹ G. S. Bowie, ‘Northern Wolds and Wessex Downlands: contrasts in sheep husbandry and farming practice, 1770–1850’, *Agricultural History Review*, xxxii (1990), 117–26.

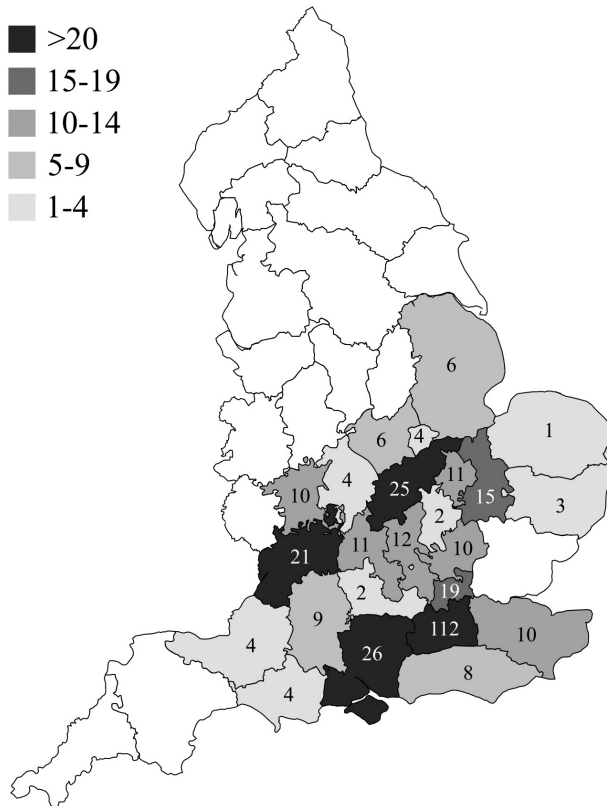


Figure 1. Distribution of parchment makers in England, 1841.

Source: Her Majesty's Stationery Office, *Reports From Commissioners*, xiii: *Parliamentary Papers* (London, 1844).

While in previous centuries parchment was typically sold directly by the manufacturer, by the sixteenth century dedicated parchment sellers and stationers had become the primary channels through which parchment was acquired (Figure 2).³² Stationers sold blank indentures, which they ruled, pricked and preliminarily engrossed, as well as providing copying services to help guarantee accurate replication of legal documents.³³ Their role increased again in the late seventeenth century with the introduction of Stamp Duty. Duties on legal proceedings and various formal documents were first levied in 1671 for nine years as the treasury sought to avert the national debt crisis.³⁴ For private legal instruments a duty of 40s was imposed for the first skin and 20s for each additional skin; those written on paper were exempt. Although these impositions are often referred to as stamp duties, no stamps were used and settlement was made in money, with collection administered locally by the courts. Despite the substantial levy,

³² H. Peek and C. Hall, *Archives of the University of Cambridge: an Historical Introduction* (Cambridge, 1962), p. 58; *History of the County of Oxford*, iv: *The City of Oxford*, ed. A. Crossley and C. R. Elrington (London, 1979); and M. H. Black, *Cambridge University Press, 1584–1984* (Cambridge, 1984), p. 8.

³³ J. Raven, *Publishing Business in Eighteenth-Century England* (Woodbridge, 2014), p. 94.

³⁴ Duties on Law Proceedings Act 1670 (22 & 23 Car. 2 c.9); and G. O. Nichol, 'English government borrowing, 1660–1688', *Journal of British Studies*, x (1971), 83–104.



Figure 2. Stationer's marks on parchment indentures: (A) 'Sold L. Houghton, no. 119 Chancery Lane. Deeds & Writing Engrossed & Copied', 1812; (B) 'Sold by G.F. Gaubert, No. 28 Duke Street, Grosvenor Square. Deeds & Writing Engrossed & Copied', 1822; (C) 'W.G. & W.H. Witherbys, Birchin Lane', 1824; and (D) Space for the mark left blank, 1821.

only £7,412 was generated in the first year,³⁵ and the duties were not renewed when they lapsed in 1680, despite the nation's continuing financial difficulties.

In 1694 the Stamp Act reimposed charges on an expanded list of legal instruments written upon either parchment or paper, initially for a period of four years to finance war with France.³⁶ Duties on extraordinary documents such as degrees from universities and Inns of Court remained at 40s, but more commonplace wills extracted a reduced duty of 5s and indentures 6d. Administration was tightly controlled by the newly created Board of Stamps, operating from Lincoln's Inn, London. Under this system parchment was purchased privately by one of the approximately forty approved regional distributors (typically freemen who operated stationery shops in cities and market towns), taken to the Stamp Office for a revenue stamp and royal cypher to be affixed, and then sold.³⁷ Alternatively, stamped parchment could be obtained directly from the Stamp Office if the local supply of skins was insufficient.³⁸ In either case stamping could be carried out only at Lincoln's Inn, even for parchment intended for use in Colonial America.³⁹ This had to occur prior to any writing, with failure to ensure this punished severely with a £500 fine. Under the board's control, over £10,000 was collected in the first three months,⁴⁰ and the system was generating annual revenues of £90,000 by 1706⁴¹ and over

³⁵ *Calendar of Treasury Books*, ed. W. A. Shaw (26 vols., London, 1908), iii. 34.

³⁶ Stamps Act 1694 (5 & 6 Will. & Mar. c.21).

³⁷ H. Dagnall, *Creating a Good Impression: Three Hundred Years of the Stamp Office and Stamp Duties* (London, 1994).

³⁸ Stamp Office, *Instructions to Be Observed*.

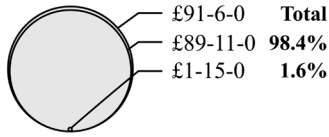
³⁹ Imposed by the Duties in American Colonies Act 1765 (5 Geo. 3 c.12), which was instrumental in the movement for American independence (see L. Oats and P. Sadler, 'Accounting for the Stamp Act crisis', *Accounting Historians Journal*, xxxv (2008), 101–43).

⁴⁰ Shaw, *Calendar of Treasury Books*, ix. 212.

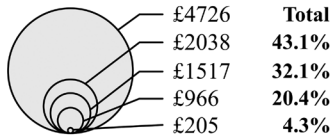
⁴¹ Shaw, *Calendar of Treasury Books*, xx. 330–2; xxiii. 363–5.

Value of purchased parchment

John Clay, Daventry, 1764–1779



Witherbys & Co., London, 1795–1806



★ Parchment-maker 🏠 Stationer

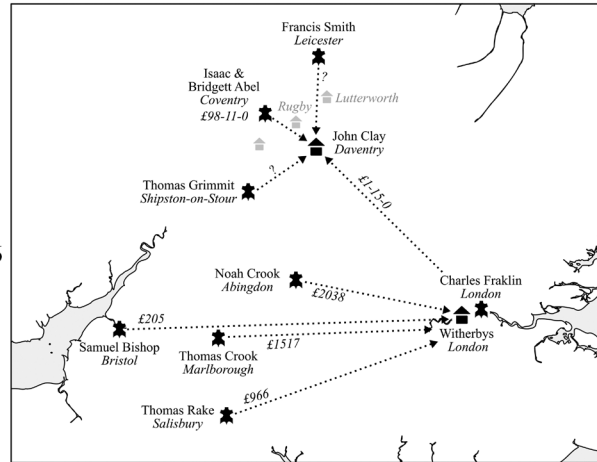


Figure 3. Location of parchment makers supplying John Clay, Daventry (1764–79), and Witherbys & Co., London (1795–1806). Data provided in [Appendix Tables 1](#) and [3](#).

£1,000,000 by 1803⁴² on all taxable parchment documents. Despite greatly increasing the cost of mercantile and legal proceedings,⁴³ duties were extended to almost all private instruments through a further eighteen Stamp Acts passed between 1709 and 1803.⁴⁴ Duties on legal proceedings ceased in 1815,⁴⁵ though they remained on indentures.

Few stationers' accounts survive. The most comprehensive are those of John Clay of Daventry and Witherbys of London, which enable us to examine the journey of finished parchment from manufacturer to lawyer. John Clay (1713–75) assumed control of his late master's stationers in Daventry in 1742 and soon established a second branch in Rugby in 1744, and a third in Lutterworth in 1758. A fourth, in Warwick, was operated by his son Samuel from 1770.⁴⁶ While the majority of his trade was in paper, Clay was an approved distributor of stamped parchment, and between 1764 and 1777 he purchased skins from five parchment makers (Figure 3).⁴⁷ His principal suppliers were Isaac and Bridgett Abel of Spon Street, Coventry,⁴⁸ from whom he purchased £89 11s worth of parchment in total. Running adjacent to the River Sherbourne, Spon Street was an area of diverse animal-based industries and a stopping point for Irish sheep, which had come through Chester destined for London.⁴⁹ Clay also purchased a small amount of parchment, worth £1 15s in total, from Charles Franklin of Butcher Row, London, although he supplied mainly specialist vellum and 'red Morocco skins', both probably for bindings.

⁴² E. Hughes, 'The English stamp duties, 1664–1764', *English Historical Review*, lvi (1941), 234–64, at p. 264.

⁴³ W. Blackstone, *Commentaries on the Laws of England in Four Books* (4 vols., London, 1767), i. 323–4.

⁴⁴ From the Post Office (Revenues) Act 1710 (9 Ann. c.11) to the Stamp Act 1804 (44 Geo. 3 c.98).

⁴⁵ An Act for Repealing the Stamp Duties on Deeds; Laws Proceedings, and Other Written or Printed Instruments 1814 (55 Geo. 3 c.184).

⁴⁶ J. Feather, 'John Clay of Daventry: the business of an eighteenth-century stationer', *Studies in Bibliography*, xxxvii (1984), 198–209.

⁴⁷ Northamptonshire Record Office (hereafter N.R.O.), ML/089, 'London suppliers'; N.R.O., D.2927, 'Country suppliers'; N.R.O., ML/691, 'Accounts 1764–73'; N.R.O., ML/692, 'Accounts 1763–66'; and N.R.O., ML/693, 'Accounts 1770–77'.

⁴⁸ T.N.A., PROB 11/1666/104, Will of Isaac Abel, parchment maker of Coventry, Warwickshire.

⁴⁹ C. Pythian-Adams, *Desolation of a City: Coventry and the Urban Crisis of the Late Middle Ages* (Cambridge, 1979), p. 161; and C. Armour, 'The trade of Chester and the state of the Dee navigation, 1600–1800' (unpublished University College London Ph.D. thesis, 1956), pp. 265–73.

Thomas Grimmit of Shipston-on-Stour and Francis Smith of Leicester are also listed as suppliers, but no transactions are recorded.

Larger distributors appear to have sourced parchment from an even wider area. Established in 1740 by Thomas Witherby (1719–97), Witherbys & Co. sold parchment and paper, and were approved distributors of revenue stamps.⁵⁰ Located off Cornhill in the heart of London's growing financial district, their business centred on copying services for the city's merchants and ship owners and the lord chamberlain of London.⁵¹ By the end of the century Witherbys had grown into a substantial operation, selling in excess of 11,000 stamped skins annually.⁵² Between 1795 and 1806 four parchment makers were recorded in the company accounts: Noah Crook of Oxfordshire, Thomas Crook and Thomas Rake of Wiltshire, and Samuel Bishop of Bristol.⁵³ The Crooks of Oxfordshire and Wiltshire were an extended family of skin processors during the eighteenth and nineteenth centuries.⁵⁴ Noah Crook was a 'fellmonger, parchment-maker and tanner' who at various times worked in Abingdon and Marlborough, Wiltshire, and in Wheatley, Oxfordshire.⁵⁵ While in Wheatley, he occupied premises at the eastern end of the High Street by the River Thane, an area popular with other animal-based industries and butchers,⁵⁶ from whom he probably acquired skins. He appears to have been a skilled parchment maker and was supplying skins to parliament⁵⁷ and large monthly orders to Witherbys worth a total of £2,038 over this period. His brother Thomas Crook of Marlborough supplied Witherbys with finished parchment around three times a month between 1795 and 1797, then every three months from 1799 to 1802, worth £1,517 in total. Samuel Bishop of Temple Street, Bristol, supplied Witherbys only two or three times a year. Bishop was a skinner, fellmonger and parchment maker,⁵⁸ and probably obtained skins from the significant number of animals processed locally,⁵⁹ including those imported from Ireland through the port of Bristol.⁶⁰ Purchases from Thomas Rake, Salisbury, occurred once or twice a year.

Despite the contrasting range of suppliers from whom their parchment was sourced, Clay and Witherbys' distribution appears to have been similar, with both supplying customers from the surrounding area who purchased parchment membranes in small amounts on a regular basis. As recorder of Daventry from 1743 to 1774, Thomas Caldecott was Clay's most valuable customer. He and other lawyers, such as Messrs. Harris and Harrison, purchased one or two sheets at a time, with the largest single order being for a dozen skins.⁶¹ Messrs. Andrews and Cracraft were some of Witherbys' most frequent

⁵⁰ London Metropolitan Archives (hereafter L.M.A.), 4682/1/01/006, 'Firm history'.

⁵¹ L.M.A., 4682/C/06/002, Journal no. 7, 1767–9; and L.M.A., 4682/1/01/001, Witherby's research files.

⁵² L.M.A., 4682/E/01/001, 'Stock account'.

⁵³ L.M.A., 4682/C/04/001, 'Ledger "D"', 1795–98; and L.M.A., 4682/C/04/002, 'Ledger'.

⁵⁴ I. Macted, *Exeter Working Papers in Book History: Biographical and Bibliographical Information on the Book Trades* <<https://bookhistory.blogspot.com>> [accessed 4 June 2022].

⁵⁵ T.N.A., PROB/11/1698/337, Will of Noah Crook of Wheatley, Oxfordshire, 2 May 1825.

⁵⁶ J. Fox, *Tanning Barn to Church: the Dissenting Congregation of Wheatley Over Two Hundred Years* (Wheatley, 1997).

⁵⁷ *A History of the County of Oxford: Volume 5, Bullingdon Hundred*, ed. M.D. Lobel (London, 1957), pp. 96–116.

⁵⁸ W. Bailey, *Bailey's British Directory, for the Year 1784* (London, 1784), p. 73.

⁵⁹ *The Bristol Poll Book, Being a List of the Householders, Freeholders and Freemen, Who Voted at the General Election for Members to Serve in Parliament for the City and County of Bristol* (Bristol, 1833), pp. 123–30.

⁶⁰ S. M. Lough, 'Trade and industry in Ireland in the sixteenth century', *Journal of Political Economy*, xxiv (1916), 713–30; L. Clarkson, 'The leather crafts in Tudor and Stuart England', *British Agricultural History Review*, xxxviii (1965), 25–37; and E. T. Jones, 'The Bristol shipping industry in the 16th century' (unpublished University of Bristol Ph.D. thesis, 1998).

⁶¹ N.R.O., ML/691.

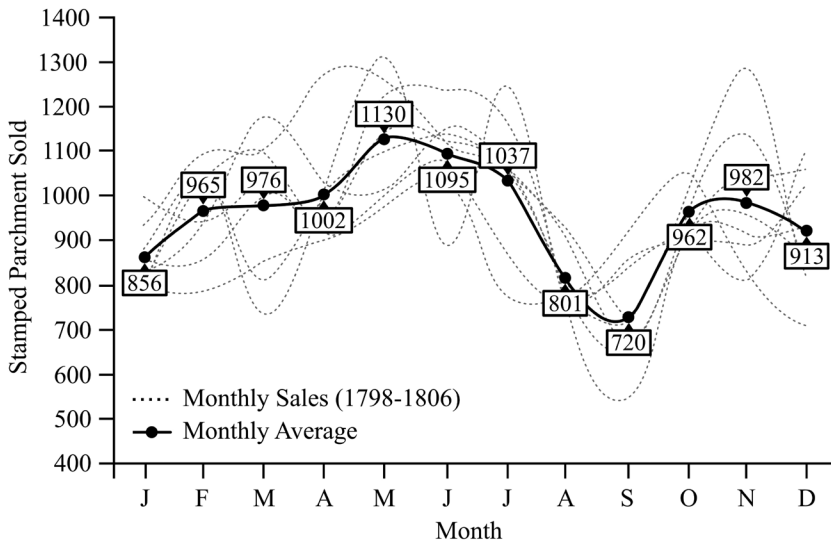


Figure 4. Quantity of stamped parchment sold monthly by Witherbys & Co., London, October 1798–December 1807. Data provided in [Appendix Table 2](#).

Source: London Metropolitan Archives, 4682/E/01/001, 'Stock account'.

customers, purchasing between two and ten skins every fortnight, including multiple purchases in a single week.⁶² Witherbys' largest customer by value was the office of the lord chamberlain of London, who purchased thousands of stamped skins annually, although, again, rarely in bulk. In a typical month, such as September 1768, 298 stamped skins were purchased across eighteen separate days, ranging from just 2 on the 13th to 100 just two days later. The demand for stamped parchment was closely tied to the annual law terms and the activity of the courts (Figure 4). While the common law courts were in session, a range of documents that required stamping were in demand, whether to initiate or to progress a case. Witherbys' sales were highest on average in May and June, as transactions were finalized before the end of the legal year. In contrast, demand fell during the summer recess between Trinity term (ending in June or July) and Michaelmas term (beginning early November),⁶³ when many judges and barristers left London for the summer assizes, travelling the country to hear or participate in cases.⁶⁴

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It has been assumed that parchment was made locally to where a legal document was written. However, from our analysis of stationers' accounts and legislation governing the collection of Stamp Duty, it is clear that this is unlikely to be the case; a document signed in Norfolk may have been sold by a London stationer using parchment sourced from Wiltshire. The apparent absence of parchment makers in northern England by the mid nineteenth century means that documents made in these regions are highly unlikely

⁶² L.M.A., 4682/C/06/002, Journal no. 7, 1767–9; and L.M.A., 4682/I/01/001, Percival and Anthony Witherby research files.

⁶³ Trinity term was of variable length. Between 1798 and 1806 it concluded between 12 June and 7 July. Michaelmas term began one week after the Feast of Michaelmas at the end of October. Yearly term dates are listed in C. R. Cheney, *A Handbook of Dates: For Students of British History*, rev. M. Jones (Cambridge, 2000), pp. 98–144.

⁶⁴ D. Lennings, *Professors of the Law: Barristers and English Legal Culture in the Eighteenth Century* (Oxford, 2000), pp. 43–60; and J. S. Cockburn, 'The Northern Assize Circuit', *Northern History*, iii (1968), 118–30.

to have been manufactured locally. This indicates that assessment of regional patterns of biomolecular data from seventeenth- to nineteenth-century legal documents is not possible.

The date a particular agreement was signed was probably only a few months after the death of the animal from which the parchment was produced. The parchment-making process began soon after slaughter and took only a few weeks to complete. The legal requirement to pay Stamp Duty before the document was written additionally meant that lawyers purchased sheets of parchment as and when required, and parchment was not stored in bulk in legal offices for future use. This confirms the potential for parchment legal documents to provide valuable time-sensitive insights for biomolecular studies into this critical period in British agricultural history.

Appendix

Table 1. Total value of parchment purchased annually by Witherbys & Co., London, 1795–1806.

Year	Parchment maker	Total value of parchment purchased (£-s-d)
1795	Noah Crook	£386-18-7
1796	Noah Crook	£265-4-9
	Thomas Crook	£674
1797	Thomas Rake	£120
	Noah Crook	£164-12-3
1798	Thomas Rake	£169
	Noah Crook	£225-6-9
1799	Thomas Rake	£65
	Samuel Bishop	£21
	Noah Crook	£96-1-3
1800	Samuel Bishop	£47-18-6
1801	Thomas Crook	£637-7-6
	Thomas Rake	£58-10
1802	Samuel Bishop	£39-18
	Thomas Crook	£206
1803	Thomas Rake	£85
	Noah Crook	£140-11-6
1804	Thomas Rake	£221
	Noah Crook	£597-7-6
	Thomas Rake	£247
1805	Samuel Bishop	£41-5
	Noah Crook	£94-7-7
1806	Samuel Bishop	£34-4
	Samuel Bishop	£21

Source: London Metropolitan Archives, 4682/C/04/001, 'Ledger "D", 1795–98'; and 4682/C/04/002, 'Ledger'.

Table 2. Quantity of stamped parchment sold monthly by Witherbys & Co., London, October 1798–December 1807.

Month	1798 ^a	1799	1800	1801	1802	1803	1804	1805	1806 ^a
January	n.d.	794	769	995	827	874	799	859	932
February	n.d.	782	1,047	936	929	1,047	1,034	851	1,092
March	n.d.	855	727	1,030	1179	814	1,098	1,002	1,106
April	n.d.	903	1,000	941	1,028	1,005	910	946	1,279
May	n.d.	972	1,312	1,230	1,012	1,100	1,001	1,147	1,263
June	n.d.	1,036	879	1,236	1,151	1,139	1,077	1,128	1,117
July	n.d.	780	1,251	1,182	1,069	1,031	867	1,061	1,058
August	n.d.	763	789	676	779	810	761	906	920
September	n.d.	711	849	549	660	722	913	667	686
October	933	996	904	928	972	933	1,054	977	n.d.
November	813	1,283	896	950	1,136	914	821	1,040	n.d.
December	1,119	788	1,033	851	822	928	704	1,056	n.d.
Total	2,865	10,663	11,456	11,504	11,564	11,317	11,039	11,640	9,453

Source: London Metropolitan Archives, 4682/E/01/001, 'Stock account', pp. 21–2.

^a n.d. = no data

Table 3. Total value of parchment purchased annually by John Clay, Daventry, 1764–77.

Parchment maker	Total value of parchment purchased (£-s-d)
Isaac and Bridgett Abel	£89-11
Charles Franklin	£1-15

Source: Northamptonshire Record Office, ML/691, 'Accounts 1764–73'; ML/692, 'Accounts 1763–66'; and ML/693, 'Accounts 1770–77'.