

Harp Making in Late-Georgian London



The Musical Instrument Maker, *The book of trades* (London: Phillips, 1823), plate following p. 256. Wellcome Collection. Attribution 4.0 International (CC by 4.0)

**Harp making
in Late-Georgian
London**

Mike Baldwin

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For my father, George

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Abbreviations and Conventions

ACY: Ancestry.co.uk

BL: The British Library

CUL: Cambridge University Library

CWA: City of Westminster Archives

d^o: ditto

ECB: Erat Cashbook, The National Archives, C110/99

EINV: Erat 1824 Inventory, The National Archives, C110/99

EL: Erat Ledger, The National Archives, C110/99

FWM: Fitzwilliam Museum

GMO: *Grove Music Online*, Oxford Music Online, Oxford University Press

GSJ: *Galpin Society Journal*

LMA: London Metropolitan Archives

OBOL: Proceeding of the Old Bailey online

r: recto

RCM: Royal College of Music

RSA: Royal Society for the Encouragement of Arts, Manufactures and Commerce

SHC: Surrey History Centre

TNA: The National Archives

TNT: The National Trust

v: verso

V&A: The Victoria & Albert Museum

WD: Robert Willis's Diary, Cambridge University Library, MS ADD 7574

Monies discussed here predate British decimalisation (1971): currency comprised pounds (£); shillings (s), of which there are 20 in a pound; and pence (d), of which there are 12 in a shilling and 240 in a pound. Where written together, they are abbreviated £/s/d (e.g. the sum of one pound, five shillings, and three pence is written £1/5/3). A guinea was 21 shillings (£1/1/-).

Weights of materials are given in the original Imperial units: a hundred-weight (cwt) is equivalent to four quarters (qr) and to 112 pounds (lbs).

1cwt = 50.8kg; 1qr = 12.7kg; and 1lb = 0.45kg.

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Preface and Acknowledgements

This book has been a long time coming. My interest in harp making started over thirty-years ago under the tutelage of Gordon Davey, a retired artist and amateur instrument maker. I first learned of the pedal harp a few years later when studying for my degree, and although much of my time was engaged in making non-pedal instruments, I cut my pedal-harp teeth on a William IV Grecian double-action by Johann Andreas Stumpff (an appropriately decorated relic of a Monmouthshire chicken shed). It was also then that I found my love of research, writing on UK harp patents and shedding new light on nineteenth-century harp innovations.

The ideas for this book first took form in 2007 following my discovery of the Erat papers. For the next ten years, I immersed myself in harp makers' ledgers, instruments and accessories, and other documentary sources. I completed an MA in 2010, and PhD (funded by the AHRC) in 2017 at London Metropolitan University under Lewis Jones, musician, musicologist, organologist, and instrument maker. This book arises from this long period of research. There are many to whom I owe a debt of gratitude, but the greatest is due to Lewis, with whom I've been fortunate to work since 1992 as an undergraduate and postgraduate. This book is the result of his careful, thoughtful and patient teaching and guidance.

Researching and writing a book requires a lot of time deep in archives and libraries and knocking on the doors of museums and private collections. I wish to thank the staff of the many institutions that have always been so helpful (and have kept the sun from my back), not least those at The British Library, London; The Bodleian Library, Oxford; Cambridge University Library; Christies, London; The City of Westminster Archives, London; Fonds Gaveau-Érard-Pleyel at Centre Sébastien Erard/Association Ad Libitum, Etobon, France; London Metropolitan Archives; Musée de la Musique, Cité de la Musique, Paris; The National Archives, Kew; The National Trust; the library and museum of The Royal College of Music, London; the archive of The Royal Society of Arts, London; Sotheby's, London, New York and Paris; Surrey History Centre, Dorking, UK; the Survey of London; The Victoria and Albert Museum, London.

I would like to thank the many people who have helped, advised, or encouraged this project, including but not limited to Professor Robert Adelson, Jerry Blumire, Dr Maria Christina Cleary, Peter Cunningham (1947-2016), dr dipti bhagat, Richard Heaton, Robert Henderson, John Hoare, Richard Huggett, Ed Macklin-Day, Clive Morley (1936-2015) and Ben Morley, Peter Moss, Dr Jenny Nex, Dr Christina Paine, Michael Parfett, Mike Parker, Ana Olek, Peter Rovey, Andrew Saint, Dr Joshua Schwieso, Rainer Thureau, and Beat Wolf.

Special thanks are due to my family, in particular Catherine, my mother, for her support and care, and George, my father (1952-2012), who would have taken great pleasure in waving this book in front of anyone who cared to pay attention. I owe a great debt to Dr David Gray and Gordon Davey (1912-1991), who fostered my initial interest in harp making.

Mike Baldwin, July 2020

1

Introduction

This, the story of harp-making in late-Georgian London, begins about a century after the invention of the pedal harp. It is the biography of an instrument born in the baroque era, developed in the classical, and popularised in the romantic. First and foremost, it is a tale of innovation and transformation by European-born inventors and musical instrument makers, situated in London, the vibrant and rapidly growing capital of the world. Change, as is so often the case, has many agents. Whilst the French Revolution and subsequent Anglo-French wars played a significant part in the birth of this English-made instrument, the economic, political and industrial developments which would lead to London becoming the centre of harp making and consumption, began over one hundred years earlier. These new harps were undoubtedly a product of musical development, but also, as we will see, of industrial, political and cultural revolution.

Between 1750 and 1800, London's population rose from 674,350 to 900,000, reaching 1,274,800 in 1821, nearly doubling in just 70 years.¹ Expansion provided a healthy market for luxury goods, a skilled workforce to make them, and finance for the establishment and expansion of manufacturing businesses. Centred in Soho, harp making was dominated by immigrants, some fleeing the terror in France. By 1711, two-fifths of Soho's 8,133 inhabitants were French, many of whom were protestant exiles who had fled France following the 1685 Edict of Fontainebleau. Maitland, writing in 1739, commented, 'Many parts [of Soho] so abound with French, that it is an easy matter for a stranger to imagine himself in France'.² Soho's French population was still evident in the late eighteenth century during a second wave of immigration when, attracted by London's growing wealth, the capital's diversity was enriched by the arrival of Germans and Italians.³

Located to the west of the city and north of the Thames, Soho's fields became a royal park under Henry VIII in 1536. Soho (formerly Kings) Square was laid out during the 1680s, only fourteen years after the Great Fire of London, and by the early eighteenth-century, its fields had been covered with streets of brick-built town houses, mews, garden-squares, and aristocratic homes. These Georgian town houses typically comprised four or five stories with basements, front areas, large windows fronting the street, and rear gardens. Speculatively and rapidly built, the materials and techniques used were often poor. Recognising that the land was more valuable than buildings, developers constructed properties to last only thirty or forty years, the length of a lease. It is unsurprising then, that as London continued its sprawl north and west over the fields of

¹ London Statistical Society, *Statistical Illustrations of the Territorial Extent and Population [...] of the British Empire* (London: Effingham Wilson, 1827), p.163.

² William Maitland, *The History and Survey of London, vol. 2, bk. 3* (London: T. Osbourne and J. Shipton, 1739), p. 716.

³ Judith Summers, *Soho: A History of London's Most Colourful Neighbourhood* (London: Bloomsbury, 1989), p. 37.

Marylebone and Mayfair, the great and the good moved north and west too. To Soho, in place of well-heeled families with their grand drawing rooms, carriages, and retinues of servants, came tradesmen and the lower classes, the houses proving to be as useful for business as for residential use. By 1750, bakeries, mug houses, butchers, victuallers, and all manner of retail services had appeared. Ground-floor rooms were converted to shops and upper-stories to living accommodation. New to this once well-to-do district were factories and workshops, and it is here our story begins. Divided over several floors orientated around a staircase, with outbuildings behind and potential for a multi-storey rear extension, these town houses were ideal for the departmental separation required by manufacturing businesses. For the instrument maker, a forge could be housed in the brick-lined basement, the first-floor drawing room became a suitable (if not impressive) showroom, and the other offices, some messy (such as wood and metal shops), some clean (such as assembly, finishing and gilding), could be located in the remaining rooms. By the end of the eighteenth century, furniture makers (such as Sheraton), and harpsichord and pianoforte makers (such as Kirkman and Broadwood) were established in such properties, followed within a decade or so by the first of the new harp makers.

THE EARLY DEVELOPMENT OF THE PEDAL HARP

Conceived in Bavaria at the close of the seventeenth century, the first pedal harps were, in their simplest forms, mechanised versions of the European hook harp. Depression of a pedal at the foot of the instrument transferred movement through the body, via a rod or cable, to a machine in the neck, where hooks or similar contrivances engaged the strings, stopping them and raising their pitch by a semitone. The earliest instruments had between two and five pedals, but seven (one for each note of the diatonic scale) soon became the standard. Four methods of achieving semitones arose; the mechanised lever, the crochet, the bequille, and the fourchette (Figure 1). Exactly who first invented the harp with pedals is unclear. Attributions range from Jacob Hochbrucker of Donauwörth in 1720⁴ to Simon Hochbrucker (Jacob's son), Paul Vetter of Nuremberg, Georg Goepfert of Saxony (later of Paris),⁵ and Johann Hausen of Weimar.⁶ In the introduction to an undated collection of *Ariettes*, Simon Hochbrucker claims that his father Jacob invented the pedal harp in 1697, but that it was he (Simon) who introduced it to Vienna in 1729 and Brussels in 1739, and that it was Goepfert who introduced it in Paris in 1749.⁷ Hochbrucker used pedal-activated levers which pushed the strings against a bridge (Figure 2). His harps were, by modern standards, lightly built and strung. The crochet action (a mechanism that stopped strings by pulling them against bridges on the neck) (Figure 3), which was to become the first widely adopted harp mechanism, appeared in Paris c1760 where it was made first by the likes of Naderman, Cousineau, Holtzman, Louvet, Renault, Salomon, Saunier, and Wolters.

⁴ Hans Joachim Zingel, *Harp Music in the Nineteenth Century*, trans. and ed. by Mark Palkovic (Bloomington: Indiana University Press, 1992), p. 3. Hochbrucker's name was sometimes anglicised to Hochbrucker.

⁵ Mike Parker, *Child of Pure Harmony* (London, Author, 2005), p. 4.

⁶ Roslyn Rensch, *Harps and Harpists*, 2nd ed. (Bloomington: Indiana University Press, 2007), p. 127.

⁷ Sue Carole DeVale, Nancy Thym-Hochrein, 'Harp', *GMO*.

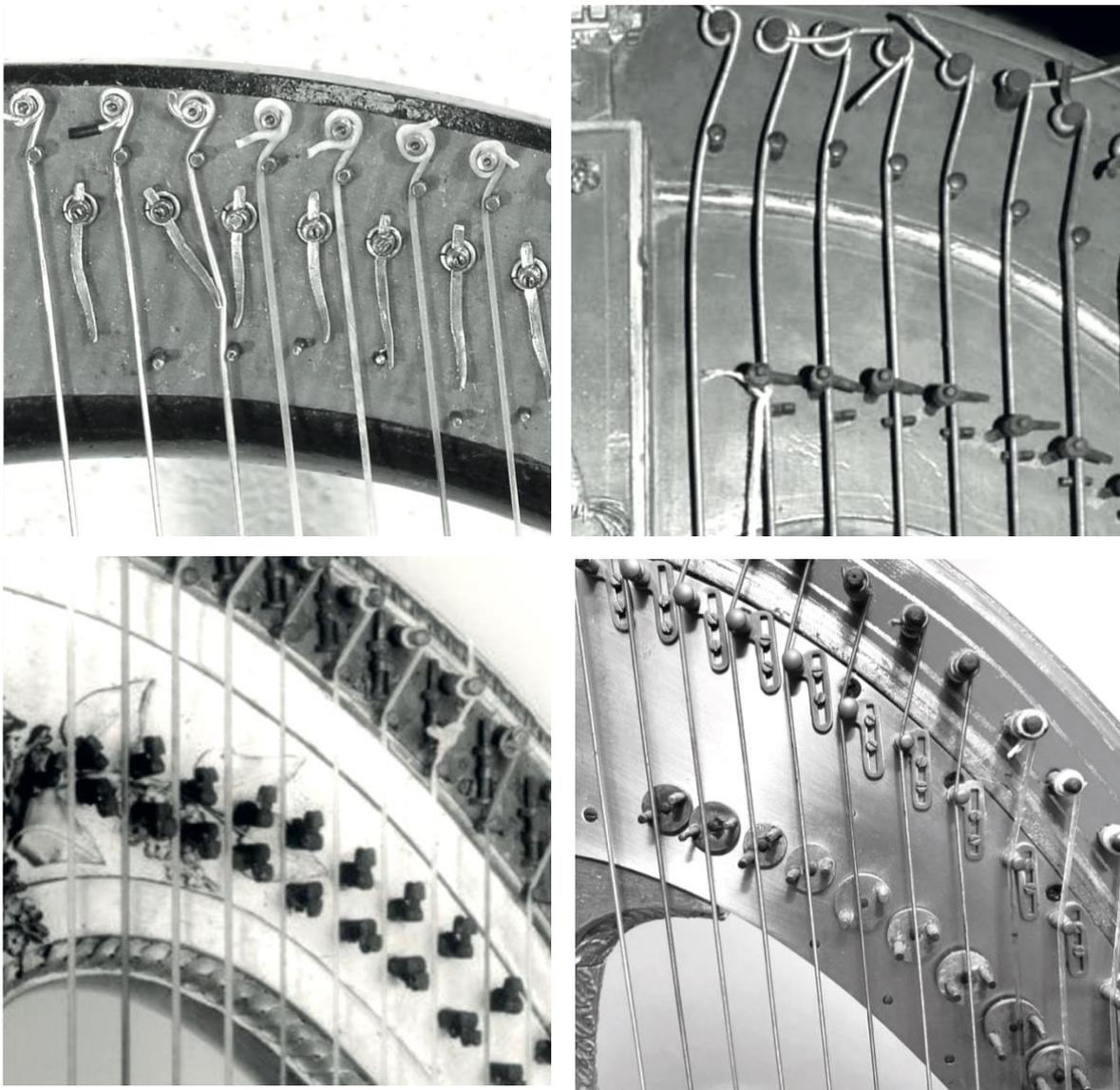


Figure 1.

Pedal harp action types. (Top: left to right). Mechanised levers, by Jacob Hochbrucker, 1728; photo used with the kind permission of Beat Wolf. Crochet harp, Naderman, c1819; Metropolitan Museum of Art, New York, U.S.A. Mus. No. 89.4.2320.

(Bottom: Left to right). Bequille harp by Cousineau, c1785; Royal College of Music Museum, London, UK, Mus. No. RCM0199. Fourchette harp by Jacob Erat, c1810; author's collection.



Figure 2.
Single-action harp by Jacob Hochbrucker, 1728. Photo used with the kind permission of Beat Wolf. Harp now at Musée de la Musique, Cité de la Musique, Paris. Mus. No. E.2009.1.1.

Beginning a trend which continues to this day, the crochet harp was more robustly made than its predecessor, and was often ornately decorated in the baroque style. Jean Henri Naderman (1734-1799), the German-born, Parisian luthier had a maker's licence by 1766. He was appointed harp maker to Marie Antoinette in 1778, and his sons, Francois-Joseph (1781-1835), and Henri Pascal (1783-1842) succeeded to the business on his death.⁸ Georges Cousineau (1733-1800), a French harp maker, was a member of the Parisian instrument maker's guild by 1769, and his son Jacques-Georges Cousineau (1760-1836) joined the business in 1775.⁹ Having initially made crochet-action harps, Cousineau developed a new system, the bequille action, which stopped the string by applying levers from either side, in so doing maintaining their alignment. Decoratively, Cousineau's harps differed little from their crochet-action counterparts (Figure). These newly-mechanised crochet and bequille instruments, adopted and developed in France during the last third of the eighteenth century, soon found their way to Britain where they rapidly superseded earlier single, double and triple-strung European instruments. It has been argued that this newly mechanised harp was easier to play than the double and triple-strung ones. With only one rank of strings, their playing techniques appear, from a modern viewpoint, to be simpler than that of instruments with multiple ranks (the Spanish *arpa de dos ordenes*, the Italian *arpa a tre registri*, and the triple harp),¹⁰ and that for players of the earlier hook harp the change in technique was apparently slight. It is important to recognise that those who made the transition would have had to learn to modulate using the pedals. Some may have used older and newer forms of the instrument concurrently as each offered its own characteristic timbre and effects.

In France, Sébastien Erard, a Strasbourg-born Parisian pianoforte maker, had been working to improve the harp since 1788. Fleeing the French Revolution and relocating to 18 Great Marlborough Street, London, in 1792, he continued to innovate. It was Erard's 1794 patent and fourchette action that gave rise to the pedal harp's English golden-age. His first innovation, the single-action with fourchettes (Figure 5) revolutionised the instrument. Over the next fifty years, around 20 London makers would supply Britain, her empire, and the new world with harps. Twenty-three patents, nine registered by Sébastien Erard and his nephew, Pierre, would see innovation drive competition. Although impossible to calculate precisely, serial numbers on

⁸ Ann Griffiths and Richard Macnutt, 'Naderman', *GMO*.

⁹ Roslyn Rensch, 'Cousineau', *GMO*.

¹⁰ The triple harp was in popular use in London during the seventeenth and eighteenth centuries. Adopted by Welsh harpists who took it home to Wales, it later became the national instrument, gaining the moniker, Welsh triple harp.

surviving instruments suggest that around 22,000 harps (more than 6,000 by Erard alone) were made in London during the nineteenth century.¹¹

LONDON'S FIRST PEDAL HARP MAKERS

A newspaper advertisement placed in 1790 by the London firm of Longman and Broderip confirms that harps were imported to London from Paris. These instruments, by 'Naderman, Cousineau and Sons, and other eminent makers,' were constructed on the 'newest and most approved principals' and were 'tried and approved by the most distinguished Professors of the harp in Paris.' They were advertised in conjunction with, 'much improved Patent Grand and Small Piano Fortes, Harpsichords, Organised Piano Fortes, portable Barrel and Finger Organs, Clavecins, &c. &c. all of which have a superior touch and tone, which is peculiar to the patent action'.¹² However, few pedal harps were made in London before Erard's arrival. John Satchel of Great Pulteney Street was appointed harp maker to the Prince of Wales on 28 March 1789,¹³ suggesting that he had been making them for some years, but as none are known to survive we do not know what sort of harps he made. Christopher Ganer, a 'piano forte maker and inlayer' of Broad Street, Golden Square, was trading by 1780.¹⁴ A *Times* advertisement dated 17 April 1794, identifies him as a 'Grand Pianoforte and Harp-maker',¹⁵ and the Horwood map (1795-1799) locates his business and confirms his occupation.¹⁶ Best known for pianofortes, Ganer may have made a small number of harps or, like Longman and Broderip, perhaps imported French-made instruments.¹⁷ When Longman and Broderip were declared bankrupt in 1795, Muzio Clementi, a famous concert pianist, invested in the company and it was renamed Longman, Clementi and Company. Their earliest harps date from 1798. An instrument from this period, inscribed



Figure 3.
Single-action crochet harp by Jean-Henri Naderman, c1780. © Victoria & Albert Museum. Mus. No. 4087-1857.

¹¹ The total number of harps made in nineteenth-century London is more fully assessed in Chapter 3.

¹² [Harp], *The Argus*, 248, 2 January 1790.

¹³ 'Preferments,' *The Scots Magazine*, 51 (Edinburgh: Murray and Cochrane, 1789), p. 155.

¹⁴ Ganer's property at Broad Street was covered by the Sun Insurance Company for £300 in 1780, £900 in 1781, and £1300 in 1782. Lance Whitehead and Jenny Nex, 'Keyboard Instrument Building in London and the Sun Insurance Records 1775-87', *Early Music*, 30, 1 (February 2002), 4-25.

¹⁵ 'Mr. William Tibbs's Annual Concert,' *The Times*, 2965, 17 April 1794.

¹⁶ Richard Horwood, *Plan of the Cities of London and Westminster, the Borough of Southwark and parts adjoining Shewing every house* (London: Richard Horwood, 1799), sheet b2.

¹⁷ Nex (2013), pp. 210-211. LMA. Sun Insurance Policy, MS11936/347/535939, insured: Christopher Ganer, 47 and 48 Broad Street, Carnaby Market, pianoforte maker and inlayer, 15 October 1787.



Figure 4.
Single action bequille harp by Cousineau,
c1785. © Victoria & Albert Museum. Mus.
No. 8531-1863.

Longman, Clementi & Co., sold by Sotheby's, Paris, in 2010, may have been made for or by them (Figure 6).¹⁸ That it has a crochet-action, as opposed to Erard's later fourchette one, indicates French influence, but otherwise the design, with a turned rather than scrolled capital, curved body, and Erard-style pedal box and soundboard decoration, is identifiably English. It is possible that Longman, Clementi & Co. commissioned a French maker to produce mechanisms and an English instrument maker to make the woodwork. Few harps by the company are known. This instrument is truly a transitional one, marking the move from French to English domination. That the company was renamed Muzio Clementi and Co. in 1801 helps with dating. A fourchette action, inscribed Clementi, sold by Mossgreen, Sydney, Australia, in 2014 bears close resemblance to those made by Erard.¹⁹ George Fröschle of Great Pulteney Street, Soho, another pianoforte maker, also made harps; a French-style single-action by Fröschle in the Vizcaya Museum, Miami, Florida, inscribed "Great Pulteney Street, Fröschle, Golden Sq., London" was originally attributed to Cousineau when purchased by the museum in November 1914.²⁰ That a Fröschle harp in the Colonial Williamsburg Museum, Virginia, is signed in four places; at the top of the soundboard (Fröschle Londini Fecit), at the bottom of the neck block (G. Fröschle/1793), on the bottom of the pedal box, and inside the sound box (George Fröschle),²¹ confirms that he was indeed the maker. A third harp is in The Nydahl Collection, Stockholm.²² In 1805, Fröschle registered an English patent for the harp. Whether he was still making then or was interested in producing a new instrument to meet the

growing London demand, is unknown. At this time, the musical instrument makers who made harps often also made other instruments. By 1806, harp manufacturing was clearly considered an important and sizeable trade when John Ayres directly advertised the sale of timber 'to coach-

¹⁸ English gilt and painted wood harp, c1798-1801, Signed Longman, Clementi & Co. Sotheby's, Paris, 14 April 2020, lot no. 231.

¹⁹ A parcel-gilt and gilt-bronze mounted harp, signed Clementi, London, 19th century. The Contents of Rockwall House, Mossgreen Auctions, Sydney, Australia, 25 May 2014, lot no. 49.

²⁰ [Fröschle harp at Vizcaya Museum], <http://vizcayamuseum.tumblr.com/post/104343844930/musical-instruments-at-vizcaya>.

²¹ Colonial Williamsburg Museum, Williamsburg, Virginia, USA, acc. no. 1988-429.

²² The Nydall Collection, Stockholm, Sweden, IKN016.

makers, wheelwrights, trunk and harp makers.²³ Over the next decade, as demand for the instrument grew, makers specialised, often producing solely the harp.

Until recently, Erard has dominated discourse on the nineteenth-century harp. Sébastien and Pierre Erard were undoubtedly instrumental in its development, and while they were the most successful and prolific makers in terms of sales, hitherto, a monocular focus has largely ignored the vibrant, substantial, and interwoven thriving harp industry and community of makers and inventors. This book draws upon a broad range of primary sources, including financial accounts, diaries, inventories, letters, maps, property leases and plans, trade directories, wills, newspapers, and instruments to tell the story of harp making in late-Georgian London. It is not just the story of the Erards, but also of their contemporaries, Alexander Barry, Alexander Blazdell, John Fuce Brown, James Delveau, Edward and Thomas Dodd, Jacob Erat (and his sons, Jacob and James), Frederick Grosjean, Henry Haarnack (and sons), Philip Holcombe, George Holderness, Thomas Martin, John Charles Schwieso, Emanuel Serquet, and Johann Andreas Stumpff, their harp-making enterprises, their employees, and their instruments.

Unsurprisingly, few company ledgers survive from nineteenth-century instrument-making companies. Written on paper, they are transient and prone to loss. Whilst the establishing of an instrument workshop was a deliberate act, the closing of one, whether by bankruptcy or death, was often out of the hands of the proprietor. Retention of old accounts demanded that they continue to have a purpose, but in most circumstances, superfluous, they were discarded. Companies which spanned generations would have amassed considerable archives, but even these were lost on closure or after purchase by a competitor. There are, however, notable exceptions. The earliest Wheatstone concertina archives date from 1834; Rudall and Carte's flute archives cover the period from 1821 to 1939; and those of the Broadwood Company date from the late-eighteenth-century to the end of the nineteenth.



Figure 5. Early Erard single-action harp, before-1794 patent, (right). © Grassi Museum für Musikinstrumente der Universität Leipzig, Inv. No. 404.

²³ 'To Coach-makers', *Morning Advertiser*, no. 2 July 1806, p. 4. Ayres advertised 'about 10,000 feet of half-inch elm board; 3,000 feet of three-quarters ditto; 5,000 feet of inch ditto; 2 loads of ditto plank; 36 beech axletree beds, and 100 elm beds, various; 1,500 ash coach fellies and 700 four-inch ditto; 350 six-inch ditto, 20 loads of dry ash plank; 3 loads of split ash; 20 pairs of oak cart sides; 8 loads of large alder, very fine; and 6 loads of sycamore and walnut-tree plank.' Of these, the sycamore would have been of most interest to harp makers.



Figure 6.
Harp by Longman, Clementi & Co. c1798-1801. Photo used with the kind permission of Sotheby's Paris

For over 100 years, the Erard Ledgers were the largest known body of nineteenth-century documents relating to London harp making. Maintained between 1797 and 1917 and bound in three volumes, these were passed to the harp maker J. G. Morley on the closure of the Erard's English business, and acquired by the Royal College of Music Museum at auction in 1995. Recording each harp sold by serial number, often naming the purchaser, and sometimes noting decoration, colour, price, repair, and resale, they are of great importance to the researcher of musical instruments, revealing not only rates of manufacture and sales, but changes in the popularity of the harp. But, with the exception of brief workshop accounts (1807-1809), they reveal very little about how the company operated.

The accounts of the Erat company (Erard's nearest competitor), though not the most prolific or successful of the London harp makers, are, whilst temporally limited, broader in range than for his larger contemporary. Comprising a 542-page accounts journal (1821–1824) detailing income and expenditure (Figure 7), a 153-page cashbook (1821–1826) (Figure 8) recording small daily purchases, three inventories (1821, 1822 and 1824), leases for properties at Park Street, Camden Town (1812), Perry Street, Somers Town (1816), and Berners Street, Oxford Street (1821), and the last will and testament (1821) of Jacob Erat (i), they open a window on harp making at the close of the Georgian era.²⁴ Catalogued as 'Master Horne's exhibits: Sharp versus Erat', these documents served as evidence in a chancery court case between George Sharp (one of Jacob Erat's executors) and the Erat family. Together, they reveal a successful company within a densely packed and perhaps over saturated market whilst shining a light on the processes and products of harp making. The ledger opens with a list of monies, totalling £1106/17/11, owed by 'the estate of the late Jacob Erat' to 47 individuals and suppliers.²⁵ The largest single amount (£138), owed to Thomas Bird, the future husband of Erat's daughter, Catherine, perhaps formed part of her dowry. Two further instalments, each of £100, recorded on 30 November 1821 and 14 February 1822,²⁶ were paid to Catherine 'in part of £500 which was to have been advanced

²⁴ TNA, C 110/99 Master Horne's Exhibits: Sharp versus Erat, 1821–1826. TNA, PROB 11/1640/31, Will of Jacob Erat, Harp Maker of Saint Marylebone, Middlesex. 3 March 1821.

²⁵ EL. pp. 1-2.

²⁶ EL. pp. 25 and 174.

to her on the day of her marriage'. Two commission payments (£5 and £23/16/-) were due to the harpists John Taylor and Madame Boom respectively, probably commission for sales of instruments to students. Some of the company's suppliers, such as Holtzapffel & Co. (tool manufacturer of 64 Charing Cross),²⁷ to whom Erat owed £6/1/6 (approximately the cost of a lathe), and Kirkman (pianoforte manufacturer of 13 Charles Street),²⁸ who was owed £3, are well known; others can be identified through year-end lists of monies paid to them. Legacy payments to the family, totalling £500, confirm those already listed in Jacob's will.²⁹ Monies owed by customers are listed next; that the 301 credit accounts total £4833/16/3, nearly four times more than the monies owed by the company, indicate that the business was solvent at the time of Jacob's death.³⁰ Together with the Erat's assets (investments, leases, contents, and harps on hire), the business was valued at £18,307/12/11.³¹ The social status of Erat's customers can be identified. Names are generally prefixed by title, and occasionally first names are recorded. John [Erhardt] Weippert (1766-1823), a noted harpist and composer, owed £65/12/9, probably for a harp, and his brother, John [Michael] Weippert (c1775-1831), owed £1/13/8, approximately the price of a set of strings. Robert Willis Esq. (1800-1875), a young harp innovator, illegitimate grandson, son, and nephew respectively of George III's physicians, Rev Dr Francis Willis (1718-1807), Dr Robert Darling Willis (1760-1821), and Dr John Willis (1751-1835), and later an English academic and mechanical engineer, owed £86/13. This is an important entry: Willis, later Jacksonian Professor of Natural Philosophy at Cambridge University, patented an improvement on the pedal harp in 1819,³² aged only 19. The ledger gives his address as Norton Street, which matches that in his patent. Although Willis's improvement never went into production, this entry illustrates a continuing interest in the harp. Following the list of outstanding accounts, a payment of £150 is recorded from a Mr. Michel for the balance of the lease on Erat's property at 100 Wardour Street. Details of leases included in the Erat papers show an initial payment of £50 was paid by Mr. Michel prior to Erat's death. Ground rent for 23 Berners Street, with a remaining lease of 67 years, is recorded at £15 per annum.

The diary of the aforementioned Robert Willis, is another important document. It describes the invention and development of his harp in the workshops of (and aided by) Jacob Erat between 1819 and 1821. Willis recorded the only first-hand account of how a new harp was developed, whilst offering a glimpse into Erat's Wardour Street workshops during a time of critical transition.

Though archives ordinarily comprise documents, they may also contain ephemeral objects. These, museums, and private collections, are also critical to our understanding of the harp. Few eighteenth- and nineteenth-century harp strings survive; harp cases, string boxes, tuning keys, and string gauges are occasionally found with their corresponding instruments, but commonly disconnected from the harp, their host object, their uses and meanings are lost. Specialist harp maker's tools are rarer still. The survival of the Erard composition moulds is therefore instrumental to the understanding of the decorative design and ornamentation Erards harps, but also the

²⁷ *Kent's Original London Directory* (London: Henry Kent Causton, 1823), p. 171.

²⁸ *Kent's Original London Directory* (London: Henry Kent Causton, 1823), p. 197.

²⁹ EL. p. 2.

³⁰ EL. pp. 2-9.

³¹ EL. p. 14.

³² Robert Willis, 'Pedal Harps', patent no. 4343, 1819.

manufacturing practises of other makers. These are scrutinised here with regard to the harp for the first time.

Through a close study of new sources, and by looking afresh at others, Chapter 2 discusses the consumption of the harp and its role in society, particularly amongst the female upper classes - many of them highly expert musicians, constrained by their gender. The harp is contextualised in relation to the manufacture of other instruments and the publication of music for them. Chapter 3, a study of the scope and scale of harp making in London, focuses on makers, exposing a competitive and somewhat combative industry in which movement between makers proliferated innovation. The prevailing Erard-centred understanding of harp making is challenged, and Erard's competitors are identified and discussed.

The ornamentation and decoration of the English pedal harp are perhaps its most striking features. In Chapter 4, Erard's single-action (1794), double-action (1810), and Gothic models (1835) are discussed in relation to contemporary design, particularly architectural ornament and decoration, furniture design, and fashion. Erard's successive decorative schemes, corresponding with stages in mechanical development, are assessed, and competitors' alternative schemes are compared. Chapter 5 considers the advantages and disadvantages of patent registration, particularly with regard to musical instruments. The technical history of the harp is traced through all patents registered for it in the United Kingdom; the merits, successes, and failures of each are discussed, illuminating the complexities of the registration process. Competition is examined in relation to the mechanical innovations of rival makers who, working in close proximity, sometimes registered remarkably similar inventions. The development of the harp over half a century is discussed in relation to the increasing need to protect intellectual property as the industrial revolution progressed.

Central to this new understanding of harp making in late Georgian London is Jacob Erat (1758-1821), whose family's origins are investigated in Chapter 6. Accounts in the company ledger are interpreted to assess family expenditure in relation to wealth and social class, and the last wills and testaments of three members of the family are interrogated to show a progressive decline in prosperity. The role of the family in the business, and the relationship between business and the standing of the family are discussed. The involvement of Jacob and James Erat, principally manufacturers, in the emergence of the Society of British Musicians is considered.

Following the story of the family, Chapter 7 mines the Erat documents to reveal the inner workings of the business. Through analysis and interpretation of the aforementioned business accounts, leases, maps, plans, and later photographs, their workshops at 100 Wardour Street and 23 Berners Street are described, and the layout of each reconstructed. Comparison of three inventories reveals changes in the organisation of the business. Through an examination of the Erats' workforce, their working conditions, and wages, Chapter 8 assesses the structure of the manufactory and business. The movement of tradesmen between competitors and from other related trades is traced, and apprenticeships, the main method of training, are examined in the context of harp making. Processes and tools used in harp making are examined by reference to extant instruments, the Erat documents, and contemporary publications.

Situating the company within a broad, local network of material and service suppliers, Chapter 9 examines the raw materials used by the Erats and some competitors in the manufacture of their harps. The cost of making is calculated. Chapter 10 analyses the Erats' sales to identify

customers, their social classes, and the products they bought. Harp sales are scrutinised to show the types sold and the decorative finishes (colour, painted ornament, and gilt type) available. The full range of accessories (e.g. strings, covers, and cases) and services (e.g. harp hire, repair, and regulation) are assessed, and the geographical reach of the company is surveyed. Monies owed by the Erats allow their suppliers to be identified, illuminating the materials, tools, and components used. Income and expenditure are compared, showing the fluctuating financial position of the company. Finally, Chapter 11, a study of Robert Willis's diary, draws together the design and manufacturing aspects of the book. Analysis of his diary illuminates the development and patenting of a novel design, the relationship between Erat and his men, family involvement in the business, workshop organisation, and competition between makers.

313	To an organ	5		
347	Mr. Dorkheym's To a Flute of Music Desk To 6 weeks hire of Desk and stool from Dec. 22. each at 1/4 pmo			7.6
298	Sundries sent to West. Point Capt. Grindley (Berners St.) To a string Squage	17	6	
343	Mr. Wroughton To a tuning key	28	2.6	
343	Mr. Short Greenwich To a string quage		5	
279	2 pegs for Harp		6	11 0
355	Lord Burghersh To a Packing Case			
297	To a packing case lined with tin			4 4
355	Sundries sent to Harp Mr. Killicks Organist Gravesend To a harp n ^o 335		30	
355	Mr. Daw Bedford Row To a black Harp n ^o 1370 with swell and patent Stops double gilt and elegantly ornamented		78.15	
355	Lord Burghersh Minister at the Court of Florence To a rosewood coloured patent Harp n ^o 1328 with the double actions painted with Raphael's arabesks & decorated in burnished gilding		105	213.15

Figure 7.
Extract from the Erat Ledger. TNA. C110/99. Photo by the author.

London February 21st 1825

26	Carriage of Harp from Mr Goldfinch	
28	Pencil	14.6
Mar. 2	Book	2
	Blotting Paper	1
	Sealing-wax	2
	Postage	6
	Oil	2
	Book	2
	Stamps	3
	ditto	2.8
3	ditto	4
6	Oil for the men	1.4
	For the men	2.6
7	Sacker	9
	Oil	2
13	Draycot	2.6
	Sealing-wax	6
	Sacker	9
15	Lat. Erat Coach hire to Tottenham	4
	Stamp	6
	Oil	2
	ditto & Sacker for the men	2.5
17	Mr. Draycott for Golds	1.6
	Oil for the men	6
	Samuel to Greenwich	1
19	Holdfast for the men	4
20	Stamps	4.8
	Sealing-wax & Stamp	1.6
	Sacker	9
22	Mr. Draycott Golds	1.6
	Sacker & Brushes	2.5
	Oil	2 1/2
23	ditto	2
24	Stamps	6
	Samuel to Blackheath	2
	Sacker	9
	Postage - Jobson	6
	ditto Miss Lock	2
25	Samuel to Tottenham	1
	Stamps	1
		3.4.2 1/2

Figure 8. Extract from the Erat cashbook, TNA. C110/99. Photo by the author.

